

Zoological Record

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PROTOZOA

COMPILED BY

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and R. A. NEAL, D.Sc., Ph.D.

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2. PROTOZOA

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FOREWORD

Papers dealing with Protozoa entirely from a medical or veterinary standpoint (clinical, therapeutic, etc.) are omitted, but notices of these will be found in *Tropical Diseases Bulletin* and *Veterinary Bulletin*.

I.—TITLES

The year of publication has been omitted where it is the same as the volume year of the "Record" namely (1956).

Anon. (1). Status of names of bacterial genera that are later homonyms of names of protozoan genera. *Int. Bull. bact. Nomencl. & Taxon.* **3** 1953 : 109–110.

Anon. (2). Status of *Babesia* Trevisan 1889 as a generic name in bacteriology. *Int. Bull. bact. Nomencl. & Taxon.* **3** 1953 : 111–113.

Anon. (3). Diagnosis of malaria. *Brit. med. J. (ii)* : 1533–1534.

Anon. (4). Opinion 418. Validation under the Plenary Powers of the Generic name "*Stentor*" Oken, 1815 (Class Ciliophora). *Opin. int. Comm. zool. Nom.* **14** : 43–68.

Anon. (5). Direction 42. Determination of the gender to be attributed to the names of seventy-eight genera of various Classes of Invertebrates and of six genera of the Class Urochorda placed on the "Official List of Generic Names in Zoology" in the period up to the end of 1956. *Opin. int. Comm. zool. Nom.* **1D** : 153–170.

Anon. (6). Donald Winchester Gravell. *Proc. Geol. Soc. Amer. Ann. Rept.* 1952 [1953] : 167.

Aaronson, S. *see* Hutner, S. H.

Aaronson, S., Hutner, S. H. & Baker, H. Effect of 2,4-dinitrophenol on *Ochromonas*. *J. Protozool.* **3** suppl. : 7.

Abdrü, H. F. *see* Youssef, M. I.

Abrard, R. (1). Le formes de passage dans le rameau phylétique *Nummulites atacicus* Leymerie—*N. aturicus* Joly et Leymerie. *C.R. Soc. géol. Fr.* **7** 1954 : 145–147.

Abrard, R. (2). Une operculine cordelée de l'Éocène inférieur de la Côte-d'Ivoire *Operculina* [*Nummulitoïdes*] tessieri n. subgen. n. sp. *Bull. Soc. géol. Fr.* **5** 1955 : 489–493, fig.

Abrard, R. (3). *Discocyclus senegalensis* : nov. sp. du Lutétien du Sénégal. *Bull. Soc. géol. Fr.* **6** : 237–241, fig.

Accordi, B. Estensione e limiti delle Formazioni Quaternarie nel Sottosuolo del Delta Padano. [*Foraminifera.*] *Riv. "Metano"* **6** 1952 : 3–8.

Achmerov, A. C. [On the microsporidiosis of *Hypomesus olidus pallas* (Teleostei)]. *Trav. Soc. Nat. St. Petersb. (Leningr.)*, **69** 1947 : 3–6. [English summary.]

Adams, A. R. D. Symposium on the treatment of human amoebiasis. I. Treatment of intestinal amoebiasis. *Trans. R. Soc. trop. Med. Hyg.* **50** : 109–113.

Adkins, M. G. Helen Jeanne Plummer (1891–1951). *Bull. amer. Ass. Petrol. Geol.* **38** 1954 : 1854–1857, fig.

Adler, J. *see* Adler, S.

Adler, S. The *in vitro* action of specific serum on *Trypanosoma cruzi*. *Bull. res. Counc. Israel.* **6E** : 78–79.

Adler, S. & Adler, J. Antraggglutination of L.D. bodies on Lockeserum-agar. Development of flagellates from Leishman-Donovan bodies. *Bull. res. Counc. Israel.* **6E** : 78–79.

Agalede, H. Sur l'existence d'une faille de direction W.–E. sur la rive gauche de l'Adour entre Chambre d'Amour et Bayonne (Basses-Pyrénées). [*Foraminifera.*] *C.R. Acad. Sci. Paris* **236** 1953 : 1688–1690.

Agatston, R. S. Pennsylvanian and lower Permian of northern and eastern Wyoming. [Foraminifera.] Bull. amer. Ass. Petrol. Geol. **38** 1954 : 508-583, figs.

Agosin, M. & Weinbach, E. C. Partial purification and characterization of the isocitric dehydrogenase from *Trypanosoma cruzi*. Biochim. biophys. Acta **21** : 117-126 figs.

Agostinucci, G. & Bronzini, E. *Eimeria pternistis* n. sp. parassita del francolino somalo. Nuova Ann. Igiene Microbiol. **6** 1955 : 449-450, figs. [English summary.]

Aguilar, F. J. Diagnostico de laboratorio en la enfermedad de Chagas o tripanosomiasis Americana. Rev. Kuba Med. trop. **12** : 58-60, figs.

Aisenberg, D. E. & Brazhnikova, N. E. (1). [A comparison of the Lower Visean deposits of the Donetz Basin and those of other regions of the U.S.S.R.] [Foraminifera.] C.R. Acad. Sci. U.R.S.S. **108** : 691-694. [In Russian.]

Aisenberg, D. E. & Brazhnikova, N. E. (2). [On the faunistic features of the Donetz Lowlands.] [Foraminifera.] C.R. Acad. Sci. U.R.S.S. **108** : 907-909. [In Russian.]

Al-Abbass, A. H. *Plasmodium praecox* in Iraq. A survey of 108 sparrows in the suburbs of Baghdad. Bull. endemic Dis., Baghdad **1** 1955 : 237-238.

Albuquerque Lima, H. M. de see Silva Ramos, A. da.

Alcayaga, M. D. Distribution del acido desoxiribonucleico en *Trypanosoma cruzi*. Biologica, Santiago, No. 21 1955 : 90-95 figs.

Alfert, M. & Goldstein, N. O. Cytochemical properties of nucleoproteins in *Tetrahymena pyriformis*; a difference in protein composition between macro- and micronuclei. J. exp. Zool. **130** 1955 : 403-421, figs.

Allan, R. S. Report on the Standing Committee on datum-planes in the geological history of the Pacific region. [Protozoa.] Proc. Pan-Pacif. sci. Congress 8th **2** : 325-423.

Allen, M. B. see Dougherty, E. C.

Allgén, C. Über zwei neue antarktische Suctorien aus dem Graham Land. K. Fysiogr. Sällsk. Lund. Forh. **21** 1952 : 173-176, figs.

Alliata, E. di N. (1). Foraminiferi pelagici e facies in Italia. Atti VII Conv. Nat. Metano e Pet. Taormina 1952 : 1-34, figs.

Alliata, E. di N. (2). Microfaune della partie superiore della serie oligocenica del Monte San Vito e del Rio Mazzapiedi-Castellania (Tortona-Alessandria). Riv. ital. Paleont. e Strat. **6** 1953 : 25-98, figs.

Allin, A. E. Parasites of moose and man. News Letter Thunder Bay Fd. Nat. Cl. **10** : 5-6.

Almeida Franco, L. T. de see Tringão, C.

Almela, A., & Rios, J. Ma. El Eoceno al SW. del Montserrat. [Foraminifera.] Bol. Inst. geol. Esp. **65** 1953 : 219-243, figs.

Ambroggi, R. Le Maestrichtien des environs d'Agadir (Sud Marocain). [Foraminifera.] C.R. Acad. Sci. Paris **239** 1954 : 547-549.

Amino, E. see Magara, M.

Anagnostakos, N. P. Carbon sources for green and colourless Euglenida. J. Protozool. **3** suppl. : 12.

Anderson, E. see Beams, H. W.

Anderson, E., Saxe, L. H. & Beams, H. W. Electron microscope observations of *Trypanosoma equiperdum*. J. Parasit. **42** : 11-16, figs.

Anderson, H. H. see Loran, M. R.

Anderson, R. C. see Fallis, A. M.

André, M. F. Amibiase chirurgicale et allergie. Du rôle de la flore microbienne associée dans les formes extrême de la maladie. Bull. Soc. Path. exot. **49** : 508-525.

Andresen, N. Cytological investigations on the giant amoeba *Chaos chaos* L. C.R. Lab. Carlsberg, sér. chim. **29** : 435-555, figs.

Andresen, N., Chapman-Andresen, C., Holter, H. & Robinson, C. V. Quantitative autoradiographic studies on the amoeba *Chaos chaos* with ¹⁴C. C.R. Lab. Carlsberg sér. chim. **28** 1953 : 499-528, figs.

Anisgard, H. W. *Eorupertia* in the Eocene of Venezuela. Contr. Cush. Fdn. Foram. Res. 7 : 48-59, figs.

Annear, D. I. Preservation of *Strigomonas oncopelti* in the dried state. Nature, Lond. 178 : 413.

Ansari, M. A. R. The genus *Retortamonas* Grassi—its cultivation and development. Pakist. J. Hlth. 5 : 189-195, figs.

Anschau, M. *see* Lieb, F.

Ansfeld, J. *see* Shaffer, J. G.

Applin, E. R. A biofacies of Woodbine age in southeastern Gulf Coast region. [Foraminifera.] Prof. Pap. U.S. geol. Surv. 264-I 1955 : 187-197, figs.

Appuhn, E. & Weiss, C. Schizogonieformen von *Leishmania donovani* im menschlichen Knochenmark. Z. Tropenmed. u. Parasit. 7 : 93-99, figs.

Arcaleo, G. *see* Carrescia, P. M.

Aréau, V. M. & Koppisch, E. Balantidiasis. A review and report of cases. Amer. J. Path. 32 : 1089-1115, figs.

Arnal, R. E. Preliminary report on the sediments and foraminifera from the Salton Sea, Southern California (abstr.). Bull. geol. Soc. Amer. 65 1954 : 1227-1228.

Arnold, Z. M. (1). Life history and cytology of the foraminiferan *Allogromia laticolalis*. Univ. Calif. Publ. zool. 61 1955 : 167-252, figs.

Arnold, Z. M. (2). The contributions of Jean Le Calvez to the study of the Foraminifera. Contr. Cush. Fdn. Foram. Res. 7 : 1-14, figs.

Arocha, L. I. *see* Scorza, J. V.

Arrhenius, G. & Blomquist, N. Proportion of sedimentary components in the calcareous eupelagic area of the East Pacific. Rep. Swed. Deep Sea Exped. 5 : 229-233.

Artigas, J. *see* Neghme, A.

Asami, K. Physiological studies on *Trichomonas vaginalis*. Keio J. Med. 5 : 169-190, figs.

Asano, K. News-Japan. Micro-paleontology 2 : 308-309.

Ashworth, E. T. News-Peru. Micropaleontology 2 : 411-412.

Asmund, B. Occurrence of *Dinobryon crenulatum* Wm. G. S. West in some Danish ponds and remarks on its morphology, cyst formation, and ecology. Hydrobiologia 7 1955 : 75-87, figs.

Atchley, F. O., Hemphill, E. C. & Hunt, D. W. Current status of intestinal parasitism of man in Eastern Kentucky. J. Parasit. 42 : 505-510.

Atzbach, O. & Geib, K. W. Über einen neuen Fundpunkt im Unteren Meeressand (Mitteloligozän) bei Bretzenheim/Noke (Mainzer Becken). [Foraminifera.] Notzbl. hess. Landesamt. Bodenforsch 83 1955 : 237-242, figs.

Aulisio, C. G. *see* Morris, J. A.

Aurouze, G. & Bizon, J. J. Sur la présence de Spirocyclines dans le Portlandien du Bassin de Paris. Bull. Soc. géol. Fr. 5 1955 : 51-54, fig.

Aurouze, G. & Boulanger, D. *Ganella* n. gen., nouveau genre de Foraminifères de l'Ypresien de Gan (Basses-Pyrénées). C.R. Soc. géol. Fr. 9 1954 : 186-188, figs.

Austin, M. L., Widmayer, D. & Walker, L. M. Antigenic transformation as adaptive response of *Paramecium aurelia* to patulin; relation to cell division. Physiol. Zool. 29 : 261-287.

Ayme, A., Glangeaud, L. & Magné, J. Sur la stratigraphie du Crétacé de la feuille de Tablat. [Foraminifera.] C.R. Acad. Sci. Paris 238 1954 : 498-500.

Aymé, A. *see* Glangeaud, L.

Baas-Becking, L. G. M. & Kaplan, I. R. The microbiological origin of the sulphur nodules of Lake Eyre. Trans. roy. Soc. S. Aust. 79 : 52-65, figs.

Băcescu, M. & Caraión, F. E. [Animaux se nourrissant de foraminifères.] Comun. Acad. Republ. rom. 6 : 551-553, figs. [French summary : 552.]

Bach, M. K. *see* Hutner, S. H.

Bailey, V. M. (1). Notes on the incidence of human parasites in Samawa, Iraq. Bull. endemic Dis. Baghdad 1 1955 : 250-252.

Bailey, V. M. (2). A cursory examination and comparison of stool examination methods. Bull. endemic Dis. 1 : 295-297.

Bailey, W. S. Veterinary parasite problems. Public Hlth. Rep. Wash. 70 1955 : 976-982.

Bairati, A. & Lehmann, F. E. Structure and chemical properties of the contractile vacuole of *Amoeba proteus*. Protoplasma 45 : 525-539, figs.

Bairati, A. see Lehmann, F. E.

Baker, E. E. see Nakamura, M.

Baker, E. G. S. see Swader, L. L.

Baker, H. see Aaronson, S.

Baker, H. see Hutner, S. H.

Baker, J. R. (1). Studies on *Trypanosoma avium* Danilewsky 1885 I. Incidence in some birds of Hertfordshire. Parasitology 46 : 308-320, figs.

Baker, J. R. (2). Studies on *Trypanosoma avium* Danilewsky 1885. II. Transmission by *Ornithomyia avicularia* L. Parasitology 46 : 321-334.

Baker, J. R. (3). Studies on *Trypanosoma avium* Danilewsky, 1885. III. Life cycle in vertebrate and invertebrate hosts. Parasitology 46 : 335-352, figs.

Balamuth, W. (1). *In vitro* approaches to the chemotherapy of amebiasis. Antibiot. Med. 1 1955 : 625-631, figs.

Balamuth, W. (2). Experimental control of encystation of *Entamoeba invadens*. J. Protozool. 3 suppl. : 1.

Balavoine, P. Le gisement fossilifère de Saint-Gervais (Seine-et-Oise). Bull. Mus. Hist. nat. Paris 28 : 419-427.

Ball, G. H. see Schinazi, L. A.

Ballantine, D. Two new marine species of *Gymnodinium* isolated from the Plymouth area. J. mar. biol. Ass. U.K. 35 : 467-474, figs.

Ballard, A. C. Observations on pond life—VIII *Amoeba*. Microscope 9 1952 : 85-91, figs.

Bamforth, B. J. see Lynch, J. E.

Bandy, O. L. (1). Ecology of foraminifera in the northeastern Gulf of Mexico (abstr.). Bull. geol. Soc. Amer. 65 1954 : 1229.

Bandy, O. L. (2). Ecology of foraminifera in northeastern Gulf of Mexico. U.S. Geol. Surv. Prof. Paper 274-G : 179-203, fig.

Banerjee, S. K. see Ganguly, D. N.

Bankowski, R. A. see Wichmann, R. W.

Barber, C. W. Nicarbazine in the prevention of coccidiosis in chickens. Cornell Vet. 43 1955 : 360-366.

Barbier, M., Fauré-Fremiet, E., & Lederer, E. Sur les pigments du cilié *Stentor niger*. C.R. Acad. Sci. Paris 242 : 2182-2184, figs.

Barghini, G. Un raro reperto di cisti di *Iodamoeba bütschlii* con due corpi iodofili. Riv. Parassit. 17 : 123-124, fig.

Barnard, T. (1). Some Lingulinae from the Lias of England. Micro-paleontology 2 : 271-282, figs.

Barnard, T. (2). News-Great Britain. Micropaleontology 2 : 307-308.

Barnett, H. C. Experimental studies of concurrent infection of canaries and of the mosquito *Culex tarsalis* with *Plasmodium relictum* and Western equine encephalitis virus. Amer. J. trop. Med. Hyg. 5 : 99-109.

Barreto, M. P. see Zago Fihlo, H.

Bartenstein, H. Taxionomische Revision der als *Eoflabellina* und *Flabellamminopsis* bezeichneten Foraminiferen. Paläont. Z. 29 1955 : 170-176, figs.

Bartos, E. On the arophytic moss-fauna of mountains, Beskydy. Přerod. Sborn. Ostrarsk-Kraje 13 1952 : 166-175, figs.

Barwick, R. E., Beveridge, P. J., Brazier, R. G., Close, R. I., Hirschfield, N., Pillau, S., Ramsay, G. W., Robinson, E. S., Stevens, G. R. & Todd, J. N. Some freshwater ciliates

from the Wellington area including eleven species recorded from New Zealand for the first time. *Tuatara* 5 1955 : 87-99, figs.

Basnuevo, T. G. & Figares, E. Diagnostico y tratamiento del síndrome disenterico por *Trichuris trichura*, por *Endamoeba histolytica* y por *Balantidium coli*. *Rev. Kuba Med. trop.* 12 : 60-67, figs. [English summary.]

Bauer, O. N. Parasites of *Coregonus albula* in different aquatories of the U.S.S.R. *Trav. Soc. Nat. St. Petersb. (Leningrad)* 69 1947 : 7-21 [English summary.]

Bauer, O. N. *see* Dogiel, V. A.

Bauman, P. M. *see* Walton, B. C.

Baumann, H. *see* Schwetz, J.

Bayles, A. *see* Thompson, P. E.

Beale, G. H. A comparative survey to the ciliary antigens of *Paramecium aurelia*, variety 1. *Caryologia* 6 Suppl. *Atti IX Congr. Internat. Genet.* (2) 1954 : 1111-1112.

Beams, H. N. *see* Anderson, E.

Beams, H. W., Tahmisian, T. N., Anderson, E. & Devine, R. L. Structure of the trophozoite of *Gregarina melanopli* as revealed by the electron microscope. *J. Protozool.* 3 suppl.: 10.

Beamer, P. D. *see* Levine, N. D.

Beaver, P. C., Jung, R. C., Sherman H. J., Read, T. R. & Robinson, T. A. (1). Experimental *Entamoeba histolytica* infections in man. *Amer. J. trop. Med. Hyg.* 5 : 1000-1009.

Beaver, P. C., Jung, R. C., Sherman, H. J., Read, T. R. & Robinson, T. A. (2). Experimental chemoprophylaxis of amebiasis. *Amer. J. trop. Med. Hyg.* 5 : 1015-1021.

Becker, E. R. (1). Apropos oöcyst measurements. *J. Parasit.* 42, suppl. 14.

Becker, E. R. (2). Catalog of Eimeriidae in genera occurring in vertebrates and not requiring intermediate hosts. *Iowa St. Coll. J. Sci.* 31 : 85-139.

Becker, E. R., Hollander, W. F. & Pattillo, W. H. Naturally occurring *Plasmodium* and *Haemoproteus* infection in the common pigeon. *J. Parasit.* 42 : 474-478.

Becker, E. R., Jessen, R. J., Pattillo, W. H. & Doorninck, W. M. van. A biometrical study of the oöcyst of *Eimeria necatrix*, a parasite of the common fowl. *J. Protozool.* 3 : 126-131.

Becker, E. R., Zimmermann, W. J., Pattillo, W. H. & Farmer, J. N. Measurements of the unsporulated oöcysts of *Eimeria acervulina*, *E. maxima*, *E. tenella*, and *E. mitis*; coccidian parasites of the common fowl. *Iowa St. Coll. J. Sci.* 31 : 79-84, figs.

Becker, E. R. *see* Doorninck, W. M. van.

Bedoya, D. J. M. Problemas de la tricomoniosis genital femina. Modo de adquisición de la enfermedad. *An. Acad. nac. Med. Madrid* 73 : 179-201.

Belford, D. J. *see* Kicinski, F. M.

Bell, S. The Ameru people of Kenya. A medical and social study Part VIII. Malaria. *J. trop. Med. Hyg.* 59 : 106-112.

Bell, S. *see* Woodruff, A. W.

Bellelli, L. Castellanos (tripanosomiasi) sperimentale della cavia da *Castellanella (Trypanosoma) evansi*. Tentativi di terapia della parassitosi con eritromicina. *Arch. ital. Sci. med. trop. parassit.* 37 : 538-542.

Belov, N. A. & Lapina, N. N. [Bottom deposits in the region of the drifting work of Station "North Pole 2".] *Bull. Acad. Sci. U.R.S.S. geol.* 7 : 3-16. [In Russian.]

Bemmelen, R. W. van (1). The geology of Indonesia. M. Nijhoff, The Hague, 1950, 1-997, figs. [Foraminifera.]

Bemmelen, R. W. van. (2). De geologische geschiedenis van Indonesië. Stockum & Zon, Den Haag, 1952 1-139, figs. [Foraminifera.]

Benedicenti, A. *see* Tchakhotine, S. T.

- Beneš, K.** *see* Růžička, B.
- Benex, J.** *see* Lamy, L.
- Bennett, G. F.** *see* Fallis, A. M.
- Bennett, G. H.** *see* Joyner, L. P.
- Benson, R. E.** *see* Fremming, B. D.
- Berberian, D. A.** *see* Dennis, E. W.
- Berg, K. & Petersen, J. C.** Studies on the humic acid Lake Gribssø. *Folia limnol. scand.* **8** : 1-273, figs.
- Bergenback, R. E. & Terriere, R. T.** Petrography and petrology of Scurry Reef, Scurry County, Texas. [Foraminifera.] *Bull. Amer. Ass. Petrol. Geol.* **37** 1953 : 1014-1029, figs.
- Bergendahl, E.** *see* Seneca, H.
- Berghe, L. van der.** Aspect particulier de la trypanosomiase maladie des pêcheurs, au lac Tumba (Congo Belge). *Ann. Soc. belge med. trop.* **36** : 185-189.
- Berghe, L. & Chardome, M.** Une Coccidie nouvelle du Fuku, Rat taupe du Congo Belge (*Tachyoryctes ruandae* Lomb. et Gylde.) *Eimeria tachyoryctis* n. sp. *Rev. Zool. Bot. Afr.* **53** : 67-69, fig.
- Bermudez, P. J.** El genero *Asterigerinata* (foraminiferos) y sus especies. *Mem. Soc. Cienc. nat. La Salle* **12** 1952 : 201-210, figs.
- Bernard, F.** Eaux Atlantiques et Méditerranéennes au large de l'Algérie. II. Courants et nannoplancton de 1951 à 1953. *Ann. Inst. Océanogr. Paris* **31** : 231-234, figs.
- Bernstein, E.** *see* Gross, J. A.
- Bernstein, E. O. & Dahn, T. L.** The growth and sexuality of *Chlamydomonas*. *J. Protozool.* **3** suppl.: 7.
- Betts, G. D.** *see* Cantrell, W.
- Beveridge, E.** The activity of phenanthridine compounds against *Babesia rodhaini* in mice; with a note on some clinical trials by P. G. Hignett. *Ann. trop. Med. Parasit.* **50** : 85-91.
- Beveridge, P. J.** *see* Barwick, R. E.
- Bhatia, S. B. (1).** Recent Foraminifera from shore sands of Western India. *Contr. Cush. Fdn. Foram. Res.* **7** : 15-24, figs.
- Bhatia, S. B. (2).** The study of variation in some smaller foraminifera. *J. Palaeont. Soc. India* **1** : 142-152, figs.
- Biczók, F. (1).** Contributions to the protozoa of the rhizosphere of wheat. *Acta zool. Budapest* **2** : 115-147, figs.
- Biczók, F. (2).** Morphologische und physiologische Untersuchungen an einer neuen Pyxidium-Art. *Acta biol. Szeged N.S.* **2** : 155-165, figs.
- Bird, R. G.** A constant morphological feature in the trophozoite stage of *Entamoeba histolytica*. *Trans. R. Soc. trop. Med. Hyg.* **50** : 302.
- Bishop, A.** Absence of potentiation between quinine and pyrimethamine in infections of *Plasmodium gallinaceum* in chicks. *Parasitology* **46** : 220-223.
- Bishop, A. & McConnachie, E. W.** A study of the factors affecting the emergence of the gametocytes of *Plasmodium gallinaceum* from the erythrocytes and the exflagellation of the male gametocytes. *Parasitology* **46** : 192-215.
- Bishop, M. S.** *see* Grayshon, J. E.
- Bizon, J. J.** *see* Aurouze, G.
- Blackstone, D. L. jr.** Permian rocks in Lembi Range, Idaho. [Foraminifera.] *Bull. amer. Ass. Petrol. Geol.* **38** 1954 : 923-925.
- Blagg, W.** *see* Wells, W. H.
- Blanc-Brude, R.** *see* Dragesco, J.
- Blokh, A. M.** [On the distribution of the Middle Carboniferous deposits in the south-east of the sub-Moscow basin.] [Foraminifera.] *Bull. Acad. Sci. U.R.S.S.* **2** : 101-104, figs. [In Russian.]
- Blomquist, N.** *see* Arrhenius, G.
- Blow, W. H.** Origin and evolution of the foraminiferal genus *Orbulina* d'Orbigny. *Micropaleontology* **2** : 57-70, figs.
- Bogaert, L. van.** De quelques aspects neurologiques de la trypanosomiase africaine. *Ann. Soc. belge Med. trop.* **36** : 645-654.

Bogdanovich, A. K. & Dmitrieva, R. G. [On calchedony in the skeletons of foraminifera.] C.R. Acad. Sci. U.R.S.S. **107** : 885-887, fig. [In Russian.]

Böhm, L. K. & Supperer, R. Beiträge sur Kenntnis tierischer Parasiten. II. Zbl. Bakt. **167** : 170-177, figs.

Bolin, E. J. (1). Microfossils of the Niobrara formation of south-eastern South Dakota. Rept. Invest. South Dakota geol. Surv. **70** 1952 : 1-74.

Bolin, E. J. (2). Some foraminifera, radiolaria and ostracoda from the Cretaceous of Minnesota (abstr.). J. Paleont. **28** 1954 : 512.

Boltovskoy, E. (1). Las Tecamebas del Rio de la Plata. Acta Geol. Lilloana Brazil **1** : 299-314, figs.

Boltovskoy, E. (2). Applications of chemical ecology in the study of the foraminifera. Micropaleontology **2** : 321.

Boltovskoy, E. (3). News-Argentina. Micropaleontology **2** : 406-407.

Bolze, J., Burollet, P. F., & Castany, G. Le sillon tunisien. [Foraminifera.] 19th Congr. géol. Inter. Alger. Monogr. Région (2) Tunisie **5** 1952 : 1-112, fig.

Bonaventure, N. L'électrocinésie dans le galvanotropisme de *Paramoecium caudatum*. Étude de l'action du courant galvanique sur les battements ciliaires. C.R. Soc. Biol. Paris **149** : 2230-2232.

Bonaventure, N. see Viaud, G.

Bond, H. W. see Greenberg, J.

Boné, G. J. & Steinart, M. Isotopes incorporated in the nucleic acids of *Trypanosoma mega*. Nature, Lond. **178** : 308-309.

Boné, G. J. see Steinart, M.

Bonnet, L. & Thomas, R. Étude sur les thécamoebiens du Sol (I). Bull. Soc. Hist. nat. Toulouse **90** 1955 : 411-428, figs.

Bordjochki, A. see Simitich, T.

Borgers, J. A. & Kitching, J. A. Reactions of the flagellate *Astasia longa* in gradients of dissolved carbon dioxide. Proc. roy. Soc. **144B** : 507-519, figs.

Botafago Gonçalves, N., Tavares, B. M. & Silva Carmo, E. da. Ação da isoniazida na infecção experimental pelo *Schizotrypanum cruzi*. An. Acad. bras. Cienc. **28** : 229-230, figs.

Botti, L. Prima segnalazione in Italia della Giardiasi del Vitello. Indagini biometriche sul parassita e sua identificazione nella specie *Giardia bovis* Fantham 1921. Riv. Parasit. **17** : 129-142, figs.

Bougot, A. J. see Switzer, G. S.

Boughton, D. C. see Davis, L. R.

Bouisset, L., Harant, H. & Ruffie, J. (1). Action de l'hibernation expérimentale sur l'évolution de *Trypanosoma equiperdum* (Doflein, 1901) chez le rat blanc. C.R. Soc. Biol. Paris **150** : 1277-1280, fig.

Bouisset, L., Harant, H. & Ruffie, J. (2). Parasitose expérimentelle à *Trypanosoma equiperdum* Doflein. Ann. Parasit. hum. comp. **31** : 331-349, figs.

Boulanger, D. see Aurouze, G.

Bourcart, J. Sables 'neritiques' à 2750 m. de profondeur au large de Bougie (Algérie). C.R. Acad. Sci. Paris **236** 1953 : 738-740.

Bourdon, M. & Lys, M. Microfaune des marnes à *Ostrea longirostris* Lmk. (Stampien) de la carrière de la Souys-Floira (Gironde). C.R. Soc. géol. Fr. **14** 1954 : 336-338.

Bowen, H. J. M. The biogeochemistry of strontium. [Protozoa.] Advanc. Sci. **12** : 585-588, fig.

Bovee, E. C. (1). A *Euplotes* from the Amazon river. J. Protozool. **3** suppl.: 4.

Bovee, E. C. (2). Some observations on a marine ameba of intertidal zones, *Vexillifera telmathalassa* n. sp. J. Protozool. **3** : 155-158, figs.

Bovee, E. C. (3). Some observations on the morphology and activities of a new ameba from citrus wastes, *Flamella citrensis* n. sp. J. Protozool. **3** : 151-153, figs.

Boulan, S. *see* Floch, H.

Bowman, G. W. *see* Davis, L. R.

Box, E. D. *see* Celaya, B. L.

Brachet, J. (1). Recherches sur les interactions biochimiques entre le noyau et le cytoplasme chez les organismes unicellulaires. I. *Amoeba proteus*. Biochem. biophys. Acta **18** 1955 : 247-268, figs.

Brachet, J. (2). Further observations on the action of ribonuclease on living amoebae. Exp. Cell Res. **10** : 255-256.

Bradin, J. L. Jr. *see* Kum, E.

Bradley, D. E. *see* Harris, K.

Bradley, S. G., Sussman, M. & Ennis, H. L. Environmental factors affecting the aggregation of the cellular slime mold *Dictyostelium discoideum*. J. Protozool. **3** : 33-38, figs.

Brand, T. von. Beziehungen zwischen Stoffwechsel und taxonomischer Einteilung der Säugetier-trypanosomen. Zool. Anz. **157** : 119-123.

Brand, T. von & Mercado, T. I. Quantitative and histochemical studies on glycogenesis in the liver of rats infected with *Plasmodium berghei*. Exper. Parasit. **5** : 34-47, figs.

Brandt, C. L., Shephard, D. C. & Giese, A. C. The effect of nutritional state of photoreversal to ultraviolet injuries in *Didinium nasutum*. J. gen. Physiol. **38** 1955 : 295-305, figs.

Bray, R. S. Studies on malaria in chimpanzees. I. The erythrocytic forms of *Plasmodium reichenowi*. J. Parasit. **42** : 588-593.

Brazhnikova, H. E. & Yartsheva, M. V. [Study on the evolution of *Monotaxis*.] Micropal. Stud. Akad. Nauk SSSR. Otdel. geol.-geog. **1** : 62-58, figs. [In Russian.]

Brazhnikova, N. E. *see* Aisenberg, D. E.

Brazier, R. G. *see* Barwick, R. E.

Bridgman, J. & Kimball, R. F. The affects of X-rays on division rate and survival of *Tillina magna* and

Colpoda sp. with an account of delayed death. J. cell. comp. Physiol. **44** : 1954 431-445, figs.

Bronnimann, P. (1). Trinidad Paleocene and Lower Eocene Globigerinidae. Bull. Amer. Paleont. **34** 1952 : 1-34, figs.

Bronnimann, P. (2). Upper Cretaceous Orbitoidal Foraminifera from Cuba. Part V. *Historbitoides* n. gen. Contr. Cushman Fdn. Foramin. Res. **7** : 60-66, figs.

Bronzini, E. *see* Agostinucci, G.

Broungart, D. C. *see* Nardone, R. M.

Brown, J. A. H. & Whitby, J. L. An immobilization test for amoebiasis. J. clin. Path. **8** 1955 : 245-246, fig.

Bruce-Chwatt, L. J. & Gibson, F. D. Transplacental passage of *Plasmodium berghei* and passive transfer of immunity in rats and mice. Trans. R. Soc. trop. Med. Hyg. **50** : 47-53, figs.

Bruce-Chwatt, L. J. *see* Walters, J. H.

Brückner, W. Globigerinenmergel und Flysch ein Beitrag zur Geologie der jüngsten helvetisch-ultrahelvetischen Ablagerungen der Schweizer Alpen. [Foraminifera.] Verh. naturf. Ges. Basel **63** 1952 : 17-40, figs.

Brunnschweiler, R. O. Mesozoic stratigraphy and history of the Canning Desert and Fitzroy Valley, Western Australia. [Foraminifera.] J. geol. Soc. Austral. **1** 1954 : 35-53, fig.

Bruschi, E. *see* Coggi, L.

Buddenbrock, W. van. Vergleichende Physiologie **3**; Birkhäuser Verlag, Basel & Stuttgart 1956, 1-677, figs.

Bukhman, M. P. & Raikov, J. B. [The usefulness of some histological fixatives for ultra-violet microscopy.] J. gen. Biol. Moscow **17** : 233-238, figs. [In Russian.]

Burgess, R. W. Effect of topically applied DDT on development of *Plasmodium vivax* and *Plasmodium falciparum* in *Anopheles quadrimaculatus*. Amer. J. trop. Med. Hyg. **5** : 163-167.

Burke, A. W. *see* Cleveland, L. R.

Burrows, R. B. & Swerdlow, M. A. *Enterobius vermicularis* as a probable vector of *Dientamaeba fragilis*. *Amer. J. trop. Med. Hyg.* **5** : 258-265, figs.

Burollet, P. F. *see* Bolze, J.

Busson, G., Magné, J. & Sigal, J. Quelques niveaux-réperes micropaléontologiques dans le Crétacé du massif des Beni-Menacer (Tell septentrional Algérien). *Bull. Soc. Hist. nat. Afr. N.* **47** : 26-30.

Buttrey, B. W. A morphological description of a *Tritrichomonas* from the nasal cavity of swine. *J. Protozool.* **3** : 8-13, figs.

Bykova, E. R. [Foraminifera from the Devonian of the Russian Platform and Urals regions.] [In Russian.] *Trudy Vses. Nauch.-issled. Geol. Raz. Inst. n. ser.* **60** 1952 : 1-64, figs.

Caire, A. *see* Glangeaud, L.

Cairns, J., Jr. The effects of variation in the host diet upon *Tritrichomonas augusta* and *T. batrachorum*. *Notul. nat. Acad. Philad.* No. 292 : 1-4.

Cameron, D. K. jr. Directory of Gulf Coast micropaleontologists. *Micropaleontology* **2** : 299-302.

Cameron, T. W. M. Parasites and parasitism, London (Methuen & Co.) pp. xix+322, 115 figs.

Camin, J. H. *see* Hull, R. W.

Canning, E. U. A new eugregarine of locusts *Gregarina garrhami* n. sp. parasite in *Solistocerca gregaria* Forsk. *J. Protozool.* **3** : 50-62, figs.

Cantrell, W. Behaviour of mixtures of oxyphenarsine-resistant and unmodified strains of *Trypanosoma equiperdum* in the rat. *Exper. Parasit.* **5** : 178-190, figs.

Cantrell, W. & Betts, G. D. Effect of cortisone on immunization against *Trypanosoma equiperdum* in the rat. *J. inf. Dis.* **99** : 282-296, figs.

Caporali, J. *see* Sautet, J.

Caputi, F. *see* Sangiorgi, G.

Caraion, F. E. *see* Băcescu, M.

Cardinali, G. & Carrescia, P. M. Ricerche sugli effecti dell' N-ossida della metil-bis (β -cloroetil) amina sulla infezione da *Plasmodium gallinaceum* e da *Plasmodium berghei*. *Riv. Malar. 34* 1955 : 273-276 fig. [English summary.]

Cardoso, R. A. de A., Guimarães, F. N. & Garcia, A. P. Toxoplasmose congênita. *Mem. Inst. O. Cruz* **54** : 571-586, figs.

Carmichael, J. Treatment and control of babesiasis. *Ann. N.Y. Acad. Sci.* **64** : 147-151.

Carneri, I. de (1). Influenza del siero di cavallo sulla crescita del *Trichomonas vaginalis* e *Trichomonas hominis* in terreno fluido al tioglicolato. *Riv. Parassit.* **17** : 247-250.

Carneri, I. de (2). Conservation of *Trichomonas* in monobacterial cultures. *Amer. J. trop. Med. Hyg.* **5** : 677-680.

Carneri, I. de (3). Isolation of *Trichomonas vaginalis* from fungi and bacteria. *Amer. J. trop. Med. Hyg.* **5** : 210-212, fig.

Carneri, I. de (4). Azione dei due antipodi ottici del cloramfenicolo e dei trev.-1. p. nitroferil-2. amino-1, 3-propandioli enantiomorfi su alcuni protozoi parassiti. *Farmaco, Sci. Pavia* **11** : 928-933.

Carozzi, A. (1). Sédimentation rythmique dans la nappe de Morcles-Aravis (Chaînes subalpines de Haute Savoie, France). *Proc. Third int. Cong. Sediment. Groningen-Wageningen, Netherlands* 1951 : 81-89.

Carozzi, A. (2). Tectonique, courants de turbidité et sédimentation, Application au Jurassique supérieur des chaînes subalpines de Haute-Savoie. *Rev. Gén. des Sci. Paris* **59** 1952 : 229-245, figs.

Carrescia, P. M. & Arcoleo, G. Reperti ematologici nelle infezione da *Plasmodium berghei*. *Riv. Malar. 35* : 85-100. [English summary.]

Carrescia, P. M. *see* Cardinali, G.

Caron, J. & Jarry, D. Première contribution à l'étude des endoparasites des petits mammifères de Banyuls. *Vie et Milieu* **7** : 116-120.

Carsola, A. J. Recent marine sediments from Alaskan and north-west Canadian Arctic. [Foraminifera.] Bull. Amer. Ass. Petrol. Geol. **38** 1954 : 1552-1586, figs.

Carvalho, G. S. de. A geologia de Baixo Mondego nos arredores de Coimbra são depósitos miocénico-oligocénicos (?), pliocénicos e pleistocénicos, todos com facies detrítico. [Foraminifera.] Publ. Univ. Coimbra Mus. Min. e Geol. **29** 1951 : 1-36, figs.

Castany, G. see Bolze, J.

Castro, E. R. see Splitter, E. J.

Castro, F. T. de & Conceiro, A. Studies on vital staining of Protozoa. Exp. Cell Res. **8** 1955 : 245-247.

Cavanaugh, D. J. see Eyles, D. E.

Cavier, R. & Mossion, X. (1). Nouveaux essais d'infestation expérimentelle de la ratte par *Trichomonas vaginalis* (Donné, 1837). C.R. Acad. Sci. Paris **243** : 180-1809.

Cavier, R. & Mossion, X. (2). Essais d'infestation expérimentale de la ratte par *Trichomonas vaginalis* (Donné, 1837). C.R. Acad. Sci. Paris **242** : 2412-2414.

Ceccaldi, J. see Depoux, R.

Čehovič, G. Recherches expérimentales sur la corrélation hormonale entre le cycle saisonnier de la grenouille et celui de ses parasites. C.R. Acad. Sci. Paris **242** : 2176-2178.

Celaya, B. L., Box, E. D. & Gingrich, W. D. Infectivity of *Plasmodium berghei* for *Anopheles quadrimaculatus* and other mosquitoes. Amer. J. trop. Med. Hyg. **5** : 168-182.

Černa, Ž. & Daniel, M. [Coccidia from the rodents of the family Muridae and insectivores of the family Soricidae in South Moravia.] Českoslov. Parasitologie **3** : 19-23 figs. [Czech with English summary.]

Cevallos, W. H. see Lilly, D. M.

Chacharonis, P. Observations on the ecology of protozoa associated with *Sphagnum*. J. Protozool. **3** suppl.: 11.

Chadefaud, M. Sur un *Labyrinthula* de Roscoff. C.R. Acad. Sci. Paris **243** : 1794-1797, figs.

Chaffee, E. F., Fife, E. H. J. & Kent, J. F. Diagnosis of *Trypanosoma cruzi* infection by complement fixation. Amer. J. trop. Med. Hyg. **5** : 763-771.

Chang, P. C. H. The ultrastructure of *Leishmania donovani*. J. Parasit. **42** : 126-138, figs.

Chang, S. L. & Kabler, P. W. Detection of cysts of *Endamoeba histolytica* in tap water by the use of membrane filter. Amer. J. Hyg. **64** : 170-180.

Chapman-Andresen, C. & Holter, H. Studies on the ingestion of C¹⁴ glucose by pinocytosis in the amoeba *Chaos chaos*. Exp. Cell. Res. 1955 suppl. **3** : 52-65, figs.

Chapman-Andresen, C. see Andresen, N.

Chardez, D. (1). Variations morphologiques et teratologie chez quelques Rhizopodes testaces. Biol. Jaarb. **23** : 265-276, figs.

Chardez, D. (2). Contribution à la faune rhizopodique de Belgique. 1. Thecamoebiens de la région Verviétoise. Rev. verviét. Hist. nat. **13** : 23-32, 42-49.

Chardez, D. (3). Quelques infusoires ciliés observés dans la région d'Ambleteuse (Pas-de-Calais). Rev. verviét. Hist. nat. **13** : 91-92.

Chardome, M., Peel, E. & Lambrecht, F. L. La malaria dans le Mutara (Ruanda). Ann. Soc. belge Med. trop. **36** : 141-144.

Chardome, M. see Berghé, L.

Čaře, K. E. Aspects of biogeochemistry of magnesium. 1. Calcareous marine organisms. J. Geol. **62** 1954 : 266-283, figs.

Chatterji, A. K. see Mohan, K.

Chatton, M. News-Middle East. Micropaleontology **2** : 97.

Chekhovich, V. D., Solovyeva, M. N., Theleznov, V. M., Ribkin, M. L., Starodubtzeva, A. S., Stukova, K. V. & Urmanov, H. H. [New data on the Devonian of Kizil-Kum.] C.R. Acad. Sci. U.R.S.S. **107** : 149-150. [In Russian.]

Chernk, S. J. *see* Pizzi, P. J.

Chew, F. Red tide and the fluctuations of conservative concentrations at an estuary mouth. Bull. mar. Sci. Gulf & Caribbean **5** 1955 : 321-330, figs.

Chibalitch, D. *see* Simitch, T.

Chipail, A. *see* Wasserman, L.

Chiji, M. [On the microbiostratigraphy of the Yatsuo group in the Yatsuo district of Toyama Prefecture.] J. geol. Soc. Japan **61** 1955 : 162-172, figs. [English abstract.]

Child, F. M. & Mazia, D. A method for the isolation of the parts of ciliates. Experientia **12** : 161-162, figs.

Chimicuti, N. *see* Sangiorgi, G.

Christensen, J. F. *see* Moulton, J. E.

Christman, R. A. Geology of St. Bartholomew, St. Martin, and Anguilla, Lesser Antilles. [Foraminifera.] Bull. geol. Soc. Amer. **64** 1953 : 65-96.

Cirillo, V. P. Induced enzyme synthesis in the phytoflagellate *Polytoma*. J. Protozool. **4** : 69-74.

Ciry, R. & Rat, P. Dos Foraminíferos nuevos del cretácico de Navarra. Publ. [alem.] extran. Geol. Esp. **7** 1953 : 287-315, figs.

Civrieux, J. M. S. de (1). Appendice micropaléontologique : Région de Altigracia de Orituco. [Foraminifera & Radiolaria.] Bol. Geol. Venezuela **1** 1951 : 260-264.

Civrieux, J. M. S. de (2). Estudio de la microfauna de la seccion-tipo del Miembro Socuy de la formacion Colon, distrito Mara, Estado Zulia. Bol. Geol. Venezuela **2** 1952 : 231-310, figs.

Cizancourt, M. de. Quelques commentaires sur *Miscellanea antillea* (Hanzawa) M. de Cizancourt et *Operculinoides georgianus* Cole et Herrick. C.R. Soc. géol. Fr. **9** 1954 : 178-179.

Cizancourt, M. de & Cuvillier, J. Les Nummulites cordelées du Sénégal occidental. C.R. Soc. géol. Fr. **1** 1954 : 130-133, figs.

Clark, G. M. *see* Elliott, A. M.

Clark, G. M. & Elliot, A. M. Nuclear behaviour in haploid clones of *Tetrahymena pyriformis*. J. Protozool. **3** suppl. : 3.

Clarke, B. *see* Parke, M.

Clarkson, M. J. Experimental infection with Turkey poults with *Eimeria adenoeides* (Moore and Brown 1951) isolated from a natural case in Great Britain. Nature, Lond. **178** : 196-197, fig.

Cleveland, L. R. (1). Hormone-induced sexual cycles of flagellates. XIV. Gametic meiosis and fertilisation in *Macrospironympha*. Arch. Protistenk. **101** : 99-170, figs.

Cleveland, L. R. (2). Brief accounts of the sexual cycles of the flagellates of *Cryptocercus*. J. Protozool. **3** : 161-180, figs.

Cleveland, L. R. (3). Cell division without chromatin in *Trichonympha* and *Barbulanympha*. J. Protozool. **3** : 78-83, figs.

Cleveland, L. R. (4). Hormone-induced sexual cycles of flagellates. XIII. Unusual behaviour of gametes and centrioles of *Barbulanympha*. J. Morph. **97** 1955 : 511-541, figs.

Cleveland, L. R. & Burke, A. N. Effects of temperature and tension on oxygen toxicity for the protozoan of *Cryptocercus*. J. Protozool. **3** : 74-77, figs.

Cleveland, L. R. & Nutting, W. L. Suppression of sexual cycles and death of the protozoa of *Cryptocercus* resulting from change of hosts during moulting period. J. exp. Zool. **130** 1955 : 485-513.

Close, R. J. *see* Barwick, R. E.

Coggi, L. & Bruschi, E. Contributo alla conoscenza dell'Oligocene in Sicilia. *Boll. Soc. geol. ital.* **71** 1955 : 83-93, figs.

Cohen, A. J. The effect of enucleation on the DPN level of *Amoeba*. *J. biophys. & biochem. Cytol.* **2** : 17-21.

Colbourne, M. J. & Sowah, E. M. A. Does milk protect infants against malaria? *Trans. R. Soc. trop. Med. Hyg.* **50** : 82-90.

Colbourne, M. J. & Wright, F. N. (1). Malaria in the Gold Coast (Part I). *W. Afr. med. J.* **4** 1955 : 3-17, figs.

Colbourne, M. J. & Wright, F. N. (2). Malaria in the Gold Coast (Part II). *W. Afr. med. J.* **4** 1955 : 161-174, figs.

Cole, C. R. *see* Sanger, V. L.

Cole, W. S. Larger foraminifera and smaller diagnostic foraminifera from Bikini drill-holes. *Prof. Pap. U.S. geol. Surv.* **260-0** 1954 : 569-608, figs.

Coleman, N. *see* Eyles, D. E.

Coleman, N. *see* Gibson, C. L.

Collins, A. C. A recent record of the genus *Fabularia* DeFrance. *Contr. Cush. Fdn. Foram. Res.* **7** : 105.

Collinson, C. & Schwalb, H. North American Paleozoic Chitinozoa. *Illinois State geol. Surv. Rept. Invest.* **186** 1955 : 1-33, figs.

Colom, G. (1). Los caracteres micropaleontológicos de algunas formaciones del Secundario de España. [Foraminifera.] *Bol. Inst. geol. Esp.* **64** 1952 : 257-316, figs.

Colom, G. (2). On the distribution and lithological importance of *Nannoconus* limestones in the bathyal facies of the Lower Cretaceous of the western Mediterranean. *Rept. 18th int. Geol. Congr. Gt. Brit.* **10** 1948. *Prov. J.* [1952] : 83-91, figs.

Colom, G. (3). Aquitanian-Burdigalian diatom deposits of the north Beltec Strait, Spain. *J. Paleont.* **26** 1952 : 867-885.

Colom, G. (4). In Carvalho, G. S. de ; Contribuição para o Estudo da Micropaleontologia dos Depósitos Detriticos Pliocenos de Portugal. [Foraminifera.] *Publ. Lab. Min. geol. Univ. Coimbra Mem. e Notic.* **37** 1954 : 37-60, figs.

Colom, G. (5). Estudio de las biozonas con foraminiferos del Terciario de Alicante. *Bol. Inst. geol. Esp.* **66** 1954 : 101-379, figs.

Colom, G. (6). Notas sobre Alveolinas españolas. *Notas Inst. geol. Esp.* **39** 1955 : 17-37, figs.

Colom, G. (7). News-Spain. *Micro-paleontology* **2** : 310.

Colom, G. (8). Una nueva *Cyclamina* (Foraminifera) de las costas del Senegal. *Bull. Inst. franq. Afr. Noire* **18A** : 35-38, figs.

Colom, G. & Gamundi, J. Sobre la extension e importancia de las "Moronitas" a lo largo de las formaciones Aquitano-Burdigalienses del Estrecho Nort-Betico. [Protozoa.] *Invest. geol. Inst. "Lucas Mallada"*, **14** 1951 : 331-385.

Coly, M. *see* Coudert, J.

Comer, E. O'B. Electrophoretic studies of plasma proteins in dogs with amebic dysentery. *J. Parasit.* **42** suppl. : 25-26.

Conato, V. & Martinis, B. Osservazioni sul Miocene dei colli Veronesi e Vicentini. *Riv. ital. Paleont.* **61** 1955 : 53-65, figs.

Conceiro, A. *see* Castro, F. T. de.

Conkin, J. E. "*Nodosinella* Brady, 1876, and associated Upper Palaeozoic genera"—a comment. *Micro-paleontology* **2** : 193.

Conover, S. A. MacM. Oceanography of Long Island Sound, 1952-54 : IV. Phytoplankton. *Bull. Bing-ham oceanogr. Coll.* **15** : 62-112, figs.

Conran, A. *see* Conran, O. F.

Conran, O. F. & Conran, A. Medical survey of Tonkolili and adjacent valleys, Sierra Leone. *J. trop. Med. Hyg.* **59** : 285-294.

Conti, L. Stratigrafia e Paleontologia della Val Solda (Lago di Lugano). Appendice. Ostracodi e foraminiferi hettangiana della Val Solda. Mem. Carte geol. ital. **30** 1954 : 1-248, figs.

Cook, A. R. *see* Thompson, P. E.

Cookson, J. C. *see* Deflandre, G.

Copeland, M. J. & Kesling, R. V. A new occurrence of *Semitextularia thomasi* Miller and Carmer, 1933. Contr. Mus. Geol. Univ. Mich. **12** 1955 : 105-112, fig.

Corbett, J. J. (1). Occurrence of lag phase due to vitamin depletion of *Euglena gracilis*. J. Protozool. **3** suppl.: 12.

Corbett, J. J. (2). Factors influencing initial expansion of *Euglena gracilis* in fresh medium. J. Protozool. **3** suppl.: 12.

Corliss, J. O. (1). Occurrence and study of autogamy in diverse strains of *Tetrahymena nostrata*. J. Protozool. **3** suppl.: 3.

Corliss, J. O. (2). On the evolution and systematics of ciliated Protozoa [Part I]. Syst. Zool. **5** : 68-91.

Corliss, J. O. (3). On the evolution and systematics of ciliated Protozoa [Part II]. Syst. Zool. **5** : 121-140, figs.

Corliss, J. O. *see* Dial, N. A.

Corliss, J. O. *see* Harman, W. J.

Corliss, J. O. *see* Holz, G. G.

Corradetti, A. & Neri, I. *Plasmodium subpraecox* Grassi e Feletti 1892 ceppo di *Plasmodium praecox* Grassi e Feletti 1890 adattato a vivere nella civetta *Carina noctua*. Riv. Parassit. **17** : 165-169.

Cosgrove, W. B. Carbohydrate metabolism of two species of trypanosomes from insects. J. Protozool. **3** suppl.: 6.

Cosgrove, W. B. *see* Hunter, F. R.

Cotrim, J. X. & Ramalho, A. C. R. Nova tecnica de coloração de protozoários pelos derivados do Romanovsky. Folia Clin. Biol. **23** 1955 : 161-166, figs.

Coudert, J. & Coly, M. Essai d'application de la réaction d'agglutination des particules de collodion a quelques parasitoses. Ann. Parasit. hum. comp. **31** : 489-499, fig.

Coutinho, J. O. (1). Contribuição para o estudo da *Leishmania enriettii* Muniz e Medina, 1948—inoculações experimentais. Folia Clin. Biol. S. Paulo **23** 1955 : 91-102.

Coutinho, J. O. (2). Nota sobre o tratamento da leishmaniose da cobraia, *Leishmania enriettii* Muniz e Medina, 1948. Folia clin. Biol. S. Paulo **23** 1955 : 37-42.

Covell, G. (1). Some aspects of malaria-therapy. J. trop. Med. Hyg. **59** : 253-261.

Covell, G. (2). Quartan stippling. J. trop. Med. Hyg. **59** : 28-30.

Craig, M. F. *see* Sonneborn, T. M.

Crespin, I. (1). Distribution of Lower Cretaceous Foraminifera in bores in the Great Artesian Basin, Northern New South Wales. J. roy. Soc. N.S.W. **89** : 78-84.

Crespin, I. (2). Migration of foraminifera in Tertiary times in Australia. Rept. Bur. Min. Res. Australia **25** : 1-15.

Crespin, I. (3). Changes in ideas of age of certain beds in the Australian Tertiaries. Rept. Bur. Min. Res. Australia **25** : 16-25.

Crespin, I. (4). News-Australia. Micropaleontology **2** : 407-408.

Crewe, W. *see* Gordon, R. M.

Cuckler, A. C. & Malanga, C. M. The effect of nicarbazin on the development of immunity to avian coccidia. J. Parasit. **42** : 593-608.

Cummings, R. H. (1). Developments in micropaleontological technique. [Foraminifera.] J. Paleont. **26** 1952 : 123.

Cummings, R. H. (2). Revision of the Upper Paleozoic textulariid foraminifera. Micropaleontology **2** : 201-242, figs.

Cummings, R. H. (3). Preparation of microfossils for photography. Micropaleontology **2** : 402.

Cummings, R. H. (4). Gyrotory sieving and straining applied to geological research. [Protozoa.] Laboratory Practice 5 : 109-110, figs.

Cushman, J. A., Todd, R. & Post, R. J. Recent foraminifera of the Marshall Islands. Prof. Pap. U.S. geol. Surv. 260-H 1954 : 319-384, figs.

Cutchins, E. C. & Warren, J. Immunity patterns in the guinea pig following *Toxoplasma* infection and vaccination with killed *Toxoplasma*. Amer. J. trop. Med. Hyg. 5 : 197-209.

Cuvillier, J. (1). A propos des "Corrélations stratigraphiques par microfossiles en Aquitaine occidentale" [Foraminifera]. Bull. Soc. géol. Fr. (6) 4 1954 : 233-236.

Cuvillier, J. (2). News-France. Micropaleontology 2 : 306-307.

Cuvillier, J. & Debourle, A. Découverte du Jurassique terminal et du Néocomien en Aquitaine occidentale et méridionale. [Foraminifera.] C. R. Soc. géol. Fr. 4 1954 : 75-76.

Cuvillier, J. see Cizancourt, M. de.

Cventković, L. see Nevenić, V.

D, A. (1). Jérôme Rodhain. Ann. Soc. belge Med. trop. 36 : 521-522.

D, A. (2). J. A. Sinton. Ann. Soc. belge Med. trop. 36 : 370.

D, A. (3). C. Mathis. Ann. Soc. belge Med. trop. 36 : 371.

Dąbrowska, J. [The training of *Paramecium caudatum*, *Stentor coeruleus*, and *Spirostomum ambiguum* to light stimuli.] Folia biol. 2 : 77-91, figs. [English summary : 91.]

Daci, A. In Darteville, E. & Roger, J. : Contribution à la connaissance de la faune du Miocène de l'Angola. [Foraminifera.] Comun. Serv. geol. Portug. 34 1954 : 237-240, figs.

Dagert, B. y C. see Scorza, J. V.

Dalloni, M. L'Atlas tellien occidental. [Foraminifera.] 19th Congr. géol. Inter. Algér. Monogr. Region (1) Algérie 24 1952 : 1-98.

Dam, A. ten. Relations du Crétacé et du Tertiaire dans la Tethys (abstr.). [Foraminifera.] Rés. des Comm., 19th Congr. géol. Inter. Alger 1952 : 129.

Danforth, W. Oxidation metabolism of *Euglena*. Arch. Biochem. & Biophys. 46 1953 : 164-173.

Danforth, W. F. see Wilson, B. W.

Daniel, M. see Černa, Ž.

Danielli, J. F. The transfer of nuclei from cell to cell as a method of studying differentiation. Exp. Cell. Res. suppl. 3 1955 : 98-101.

Danielli, J. F. see Ord, M. J.

Danisch, E. Über die Flora und Fauna der Kimmeridge.—und Gigas-Schichten zwischen Engter und Venne. Veröff. naturw. Ver. Osnabrück 27 1955 : 54-73, figs.

Danner, W. R. Yakutat-Francis-can type rocks of the State of Washington (abstr.). [Foraminifera.] Bull. geol. Soc. Amer. 64 1953 : 1411.

Davey, T. H. see Thomas, W. E.

Davis, L. R., Boughton, D. C. & Bowman, G. W. Biology and pathogenicity of *Eimeria alabamensis* Christensen, 1941, an intranuclear coccidium of cattle. Amer. J. vet. Res. 16 1955 : 274-281, figs.

Davis, L. R. & Bowman, G. W. The endogenous development of *Eimeria zurnii* (Rivolta, 1878) Martin 1909, a pathogenic coccidium of cattle. J. Protozool. 3 suppl. : 1.

Davis, R. J. see Nathan, H. A.

Deane, L. M. Leishmaniose visceral no Brasil. Estudos sobre reservatórios e transmissores realizados no Estado do Ceará. Rio de Janeiro, 1956 : viii+162 pp., figs. [In Portuguese.]

Debourle, A. *Cuvillierina eocenica*, nouveau genre et nouvelle espèce de Foraminifère de l'Yprésien d'Aquitaine. Bull. Soc. géol. Fr. 5 1955 : 55-57, fig.

Debourle, A. & Delmas, M. *Victoriella aquitana*, nouveau Foraminifère de l'Oligocène d'Aquitaine. Bull. Soc. géol. Fr. 5 1955 : 47-49, fig.

Debourle, A. *see* Cuvillier, J.

Dechary, J. M. *see* Kun, E.

Decloitre, A. L. Rhizopodes de l'Afrique orientale anglaise. Bull. Inst. franç. Afr. noire **15** 1953 : 1432-6, figs.

Decloitre, E. Matériaux pour une faune rhizopodique d'A.O.F. (Casamance, Sénégal, Guinée.) Bull. Inst. franç. Afr. N. **18A** : 377-390, figs.

Decloitre, L. (1). Rhizopodes thécamoebiens. Part XVI of Le Parc National du Niokolo-Koba. Mém. Inst. Fr. Afr. Noire **48** : 233-258, figs.

Decloitre, L. (2). Qu'est-ce que les Rhizopodes thécamoebiens ? Note afr. No. **62** 1954 : 54-55, figs.

Decloitre, L. (3). Repartition biogéographique de quelques *Nebela* (Thécamoebiens). C.R. Soc. Biogéogr. **31** 1954 : 32-34.

Decloitre, L. (4). Rhizopodes Thécamoebiens du Vénézuéla. Hydrobiologia **7** 1955 : 325-372, figs.

Decloitre, L. (5). Les Thecamoebiens de l'Ege (Groenland). Act. Sci. et Indust. 1242. Exped. Pol. Fr. Missions Paul-Emile Victor **8** : 1-105, figs.

Deegan, T. Malaria pigment. Trans. roy. Soc. trop. Med. Hyg. **50** : 106-107.

Deegan, T. & Maegraith, B. G. (1). Studies on the nature of malarial pigment (haemozoin). I : The pigment of the simian species, *Plasmodium knowlesi* and *P. cynomolgi*. Ann. trop. Med. Parasit. **50** : 194-211, figs.

Deegan, T. & Maegraith, B. G. (2). Studies on the nature of malarial pigment (haemozoin). II : The pigment of the human species, *Plasmodium falciparum* and *P. malariae*. Ann. trop. Med. Parasit. **50** : 212-222, figs.

Deflandre, G. & Cookson, I. C. (1). Sur le microplancton fossile conservé dans diverses roches sédimentaires australiennes s'étageant du Crétacé inférieur au Miocène supérieur. [Forms listed here are *nomina nuda* but validated in 1955.] C.R. Acad. Sci. Paris **239** 1954 : 1235-1238, figs.

Deflandre, G. & Cookson, I. C. (2.) Fossil microplankton from Australian late Mesozoic and Tertiary sediments. Aust. J. Mar. Freshw. Res. **6** 1955 : 242-313, figs.

De Guisti, D. & Delidow, S. The life cycle of *Gregarina hyalellae*, a gregarine parasite in *Hyalella azteca*. J. Parasit. **42** Suppl. : 25.

Dekeyser, P. L. & Villiers, A. Contributions à l'étude du peuplement de la Mauritanie. Notations écologiques et biogéographiques sur la faune de l'Adrar. Mém. Inst. franç. Afr. N. **44** : 1-222, figs.

Deleau, P. (1). Le Pays Constantinois. [Foraminifera.] 19th Congr. inter. Géol. Alger, Monogr. Région (1), Algérie **13** 1952 : 1-85, figs.

Deleau, P. (2). La grande faille limitant au sud la chaîne numidique. [Foraminifera.] C.R. Acad. Sci. Paris **236** 1953 : 2525-2527.

Deleau, P. & Marie, P. Les calcaires oolithiques du Namurien du Sud-Oranais et leur faune de Foraminifères. C.R. Soc. géol. Fr. **11** 1954 : 225-226.

Delga, M. D. Le sud-ouest de la Petite Kabylie. [Foraminifera.] 19th Congr. géol. Inter. Alger., Monogr. Région (1) Algérie **10** 1952 : 1-62, figs.

Delga, M. D., Glangeaud, L., Magné, J. & Tayeb, G. Les formations sédimentaires entourant le massif eruptif de cavallo (Nord-Constantinois, Algérie). [Foraminifera.] C.R. Acad. Sci. Paris **236** 1953 : 302-305.

Delga, M. D. *see* Fallot, P.

Delidow, S. *see* De Guisti, D.

Delmas, M. *see* Debourle, A.

Demanet, F. Contribution à l'étude de la microfaune marine du Westphalien de la Campine. [Foraminifera.] Bull. Inst. roy. Sci. nat. Belg. **25** 1950 : 1-16, figs.

Demarchi, J. Le milieu biologique en région tropicale. Méd. trop. **18** : 59-74.

Dennis, E. W. & Berberian, D. A. The chemotherapeutic properties of WIN 5047 (Mantomide), a new synthetic amebicide. *Antibiot. & Chemother.* **5** 1954 : 554-560.

Deom, J. & Mortelmans, J. Observations sur la coccidiose du mouton et de la Chèvre au Congo Belge. Essais thérapeutiques. *Ann. Soc. belge Méd. trop.* **36** : 47-51.

Depieds, R. Considérations biologiques sur les cultures d'amibes. *Méd. trop.* **15** 1955 : 208-214.

Depieds, R. & Faure, A. A propos du rapport protéines totales globulines chez les rats infestés par *Plasmodium berghei*. *Bull. Soc. Path. exot.* **49** : 270-271.

Depoux, R., Merveille, P. & Ceccaldi, J. Étude de la réaction de fixation du complément dans la trypanosomiasis humaine. *Ann. Inst. Pasteur, Paris* **91** : 684-692.

Deschiens, R., Pick, F. & Sarauw, U. L'immunisation expérimentelle de la poule domestique contre l'infestation à *Plasmodium gallinaceum*. *Bull. Soc. Path. exot.* **49** : 353-365, figs.

Desowitz, R. S. (1). Effect of antibody on the respiratory rate of *Trypanosoma vivax*. *Nature, Lond.* **177** : 132-133, figs.

Desowitz, R. S. (2). Observations on the metabolism of *Trypanosoma vivax*. *Exper. Parasit.* **5** : 250-259, fig.

Desowitz, R. S. *see* Williamson, J.

Deunff, J. Un microplaneton fossilé dévonien à Hystrichosphères du continent nord-américain. *Bull. Micro. appl.* (2) **5** 1955 : 138-150, figs.

Devine, R. L. *see* Beams, H. W.

Dewey, V. C. *see* Kidder, G. W.

Dial, N. A. & Corliss, J. O. A possible experimental approach to regeneration problems in *Tetrahymena pyriformis*. *J. Protozool.* **3** Suppl. : 10.

Diamond, L. S. & Rubin, R. Susceptibility of domestic animals to infection with *Trypanosoma cruzi* from the raccoon. *J. Parasit.* **42** Suppl. : 21.

Dippell, R. V. (1). A preliminary report on the chromosomal constitution of certain variety 4 races of *Paramecium aurelia*. *Caryologia* **6** Suppl. Atti IX Congr. Internat. Genet. (2) 1954 : 1109-1111.

Dippell, R. V. (2). A temporary stain for *Paramecium* and other ciliate Protozoa. *Stain Tech.* **30** 1955 : 69-71.

Dippell, R. V. *see* Sonneborn, T. M.

Diskus, A. (1). Zum Osmoseverhalten halophiler Euglenen vom Neusiedler See. *S.B. öst. Akad. Wiss. Abt. 1* **162** (3) 1953 : 171-179, figs.

Diskus, A. (2). Färbestudien an den Schleimkörperchen und Schleimausscheidungen einiger Euglenen. *Protoplasma* **45** : 460-477, figs.

Dizer, A. [Les Foraminifères de l'Eocène Inférieur de l'ouest de Ravin de Filyos]. *Rev. Fac. Sci. Univ. Istanbul.* **21B** : 1-8, figs.

Dmitrieva, R. G. *see* Bogdanovich, A. K.

Dogel'v, V. A. & Reshchetnyak, V. V. Radiolaria (31-39). In P. V. Ushakov, Atlas of the Invertebrates of the Far Eastern Seas of the U.S.S.R. *Inst. Zool. Acad. Sci. Leningrad* 1955. [In Russian.]

Dogiel, V. A. [General characteristics of the parasitic fauna of animals inhabiting the Far East seas.] *Trav. Inst. Zool. Acad. Sci. U.R.S.S.* **21** : 53-61. [In Russian.]

Dogiel, V. A. & Bauer, O. N. [Campaign against harmful parasites of fish in ponds.] *Moscow*, 1955, 85 pp. 26 figs. [In Russian.]

Dolezal, M., Przybykiewicz, Z. & Starzyk, J. [Influence and action of Chlorpromazine on the course of experimental toxoplasmosis in white mice.] *Acta Parasit. polon.* **4** : 555-560. [English summary.]

Dolle, M. Les Lepidocyclines de l'Oligocène de Sousse. 19th Congr. géol. Inter. Alger. *Monogr. Région* (2) Tunisie **6** 1952 : 139-140.

Dollfus, R. Ph. Liste des parasites animaux du hareng de l'Atlantique Nord et de la Baltique. *J. Cons. int. Explor. Mer* **22** : 58-65.

Doolan, J. J., Rotner, M. & Yancey, P. H. An effect of penicillin on *Paramecium* cultures. *J. Ala. Acad. Sci.* **22** 1952 : 100.

Doorninck, W. M. van & Becker, E. R. Penetration and invasion of the intestinal mucosa of the chicken by the sporozoites of *Eimeria necatrix*. *J. Protozool.* **3** Suppl. : 1.

Doorninck, W. M. van see Becker, E. R.

Doran, D. J. (1). Aerobic metabolism of *Trichomonas foetus* and *Trichomonas* spp. from swine. *J. Protozool.* **3** Suppl. : 13.

Doran, D. J. (2). Changes in aerobic fermentation during growth of *Trichomonas foetus*. *J. Protozool.* **3** Suppl. : 13.

Dott, R. H. jr. *Chaetetes*, important marker in Pennsylvanian of Central Great Basin (abstr.). [Foraminifera.] *Bull. geol. Soc. Amer.* **65** 1954 : 1245-1246.

Dougherty, E. C. Parasexuality should be sought in the primitive protista. *J. Protozool.* **3** Suppl. : 11.

Dougherty, E. C. & Allen, M. B. Some pigment "mutants" of *Cyandrium caldarium* (division (?) Chlorophyta). *J. Protozool.* **3** Suppl. : 12.

Doyle, B. see Setlow, R.

Dragesco, J., Blanc-Brude, R. & Gauchery, M. Anhydrobiose chez un infusoire tentaculifère : *Helio-phrya erhardi* (Rieder) Matthes. *Mikroskopie* **10** : 262-266. [English summary : p. 265.]

Dragonas, P. see Tarlatzis, C.

Drooger, C. W. (1). Remarks on *Cycloclypeus*. I. *Proc. Akad. Wet. Amst.* **58B** 1955 : 415-423, figs.

Drooger, C. W. (2). Remarks on *Cycloclypeus*. II. *Proc. Akad. Wet. Amst.* **58B** 1955 : 424-433, figs.

Drooger, C. W. (3). Transatlantic correlation of the Oligo-Miocene by means of foraminifera. *Micropaleontology* **2** : 183-192.

Drooger, C. W. (4). *Miogyopsina* at Puente Viejo, Spain. *Proc. Akad. Wet. Amst.* **59B** : 68-72, fig.

Drooger, C. W. (5). Parallel evolutionary trends in larger foraminifera. *Proc. Akad. Wet. Amst.* **59B** : 458-469, figs.

Droop, M. R. On the ecology of flagellates from some brackish and fresh-water rockpools of Finland. *Acta Botanica Fenn.* **51** 1953 : 3-46, figs.

Dubourdieu, G. Monts du Mèllégue. [Foraminifera.] 19th Congr. inter. Géol. Alger. Monogr. Région (1), Algérie **3** 1952 : 1-54, figs.

Ducci, A. Contributo alla geologia dell'Isola di Capri. [Foraminifera.] *Boll. Uff. geol. Ital.* **73** 1951 : 347-354, fig.

Ducloux, A. H. Enrico Fossamancini (1884-1950). *Bull. Amer. Ass. Petrol. Geol.* **37** 1953 : 2245-6, fig.

Ducoff, H. S. (1). Radiation-induced fission block in synchronized cultures of *Tetrahymena pyriformis* W. *Exp. Cell Res.* **11** : 218-220, figs.

Ducoff, H. S. (2). The influence of specific nutrients on mating reaction in *Tetrahymena pyriformis*. *J. Protozool.* **3** Suppl. : 3.

Dunbar, C. O. A new technique for making sections of invertebrate fossils. *J. Paleont.* **28** 1954 : 112.

Duplan, L. Sur l'existence d'un flysch grés-quartziteux du Sénonien dans les régions littorales de l'Algérie. [Foraminifera.] *C.R. Acad. Sci. Paris* **236** 1953 : 1371-1373.

Durall, C. S. & Vilardell, F. Risultati dell'intradermoreazione alla toxoplasmina nella popolazione di Barcellona. *Igiene mod.* **48** : 667-677, figs. [English summary.]

Dutkiewicz, J. [In vitro action of Largactil upon *Trichomonas foetus* Ried.] *Acta Parasit. polon.* **4** : 601-608. [English summary.]

Dzvelaya, M. F. [On the Middle Oligocene of Guria.] [Foraminifera.] *C.R. Acad. Sci. U.R.S.S.* **106** : 317-319. [In Russian.]

Earland, A. Some notes on Foraminifera. *J. roy. micr. Soc.* **75** : 194-197, fig.

Echols, D. J. News-Mid-Continent of United States. *Micropaleontology* **2** : 101-103.

Edgell, S. Some guide foraminifera of the Upper Cretaceous and lower Tertiary in Australia and California. (abstr.). *Bull. Amer. Ass. Petrol. Geol.* **37** 1953 : 2781.

Edwards, E. E., Judd, J. M. & Squire, F. A. (1). Observations on trypanosomiasis in domestic animals in West Africa : 1. The daily index of infection and the weekly haematological values in goats and sheep infected with *Trypanosoma vivax*, *T. congolense* and *T. brucei*. *Ann. trop. Med. Parasit.* **50** : 223-241, figs.

Edwards, E. E., Judd, J. M. & Squire, F. A. (2). Observations on trypanosomiasis in domestic animals in West Africa. II. The effect on the erythrocyte sedimentation rate, plasma protein, bilirubin, blood sugar, red-cell osmotic fragility, body weight and temperature in goats and sheep infected with *Trypanosoma vivax*, *T. congolense* and *T. brucei*. *Ann. trop. Med. Parasit.* **50** : 242-251, fig.

Edwards, E. E., Judd, J. M. & Squire, F. A. (3). Responses of domestic animals to infections of *Trypanosoma vivax*, *T. congolense* and *T. brucei*. *Nature, Lond.* **177** : 332.

Ehret, C. F. & Powers, E. L. (1). Macronuclear and nucleolar development in *Paramecium bursaria*. *Exp. Cell Res.* **9** 1955 : 241-257, figs.

Ehret, C. F. & Powers, E. L. (2). The systems and complexes of primary organelles in *Paramecium*. *J. Protozool.* **3** Suppl. : 5.

Eichel, H. J. Effects of atabrine and flavin mononucleotide on oxidation of succinic acid by *Tetrahymena* preparations. *Biochim. biophys. Acta* **22** : 571-573, fig.

Eichenwald, H. F. The laboratory diagnosis of toxoplasmosis. *Ann. N.Y. Acad. Sci.* **64** : 207-214.

Elgood, J. H. *see* Webb, J. E.

Elias, M. K. *Cambroporella* and *Coeloclema*, lower Cambrian and Ordovician bryozoans. *J. Paleont.* **28** 1954 : 52-58, figs.

Ellenby, C. Arresting *Paramecium*. *Nature, Lond.* **177** : 98.

Elliot, A. M. *see* Clark, G. M.

Elliott, A. M. & Clark, G. M. (1). The induction of haploidy in *Tetrahymena pyriformis* following X-irradiation. *J. Protozool.* **3** : 181-188, figs.

Elliot, A. M. & Clark, G. M. (2). Strains of *Tetrahymena pyriformis* that grow without pyridoxime. *J. Protozool.* **3** Suppl. : 6.

Ellis, B. G. & Messina, A. R. Catalogue of Foraminifera, Supplement for 1952. *Spec. Publ. Amer. Mus. nat. Hist.* **1952** : 1-711, figs.

Elsdon-Dew, R. *see* Linggen, M. I.

Elsdon-Dew, R. Further aspects of amoebiasis in Africans. *Central Afr. J. Med.* **2** : 291-294.

Emiliani, C. Nomenclature and grammar. [Protozoa]. *J. Wash. Acad. Sci.* **42** 1952 : 137-141.

Emiliani, C. & Epstein, S. Temperature variations in the lower Pleistocene of southern California. [Foraminifera]. *J. Geology* **61** 1953 : 171-181.

Endo, R. & Hashimoto, W. Unquestionably Paleozoic (Permian) fossils found in Hokkaido, Japan. *Proc. Japan Acad.* **31** 1955 : 704-708, figs.

English, A. R. *see* Lynch, J. E.

Ennis, H. L. *see* Bradley, S. G.

Epstein, S. & Lowenstam, H. A. Temperature - shell - growth relations of Recent and interglacial Pleistocene shoal-water biota from Bermuda. *J. Geol.* **61** 1953 : 424-438.

Epstein, S. *see* Emiliani, C.

Ercoli, N. *see* Volini, M.

Erhardová, B. *see* Ryšavý, B.

Ericson, D. B. Deep-sea cores and currents in the Pleistocene North Atlantic (abstr.). [Foraminifera]. *Bull. geol. Soc. Amer.* **64** 1953 : 1418.

Ericson, D. B. & Wollin, G. Micropaleontological and isotopic determinations of Pleistocene climates. *Micropaleontology* **2**: 257-270, figs.

Ertl, M. (1). Príspevok k poznania fauny koreňonožcov (Rhizopoda) Dunaja. *Biológia, Bratislava* **9** 1954: 607-616, figs. [German summary.]

Ertl, M. (2). Rhizopoden des Torfmoors von Bör (Crava). *Prace II Sekc. Slov. Akad. Vied. Sér. Biol.* **1** 1955: 1-39, figs. [German summary: 27.]

Ertl, M. (3). Kritische Bemerkungen über *Diffugia leidy* Wailes. *Biologica, Bratislava* **11**: 423-429, figs. [German summary, p. 428.]

Etges, F. J. Notes on the use of technicon mounting medium for *in toto* preparations. *J. Parasit.* **42**: 30.

Eugene, E., Lynch, V. & Thoms, R. K. (1). Observations on vaginal trichomoniasis in monkeys. *J. Parasit.* **42** Suppl.: 22.

Eugene, E., Lynch, V. & Thoms, R. K. (2). The inhibitory effect of an ion exchange resin on *Trichomonas vaginalis*. *J. Parasit.* **42** Suppl.: 23.

Evans, F. R. *Tritrichomonas muris* in desert rodents of Utah. *J. Parasit.* **42**: 495.

Evens, F. & Niemegeers, C. Étude comparative entre des souches de *T. gambiense* de la région de Léopoldville et les souches provenant du foyer de trypanosomiase à *T. rhodesiense* des Ruanda-Urundi. *Ann. Soc. belge. Méd. trop.* **36**: 71-86.

Eventor, Y. S. *see* Kopeliovich, A. V.

Evitt, W. R. Foraminifera from the Devonian of New York (abstr.). *Bull. geol. Soc. Amer.* **65** 1954: 1249-1250.

Exner, H. *see* Lieb, F.

Eyles, D. E. Newer knowledge of the chemotherapy of toxoplasmosis. *Ann. N.Y. Acad. Sci.* **64**: 252-267, fig.

Eyles, D. E. & Coleman, N. (1). Notes on the treatment of acute experimental toxoplasmosis of the mouse with chlortetracycline and tetracycline. *Antibiot. & Chemother.* **4**: 1954 988-991.

Eyles, D. E. & Coleman, N. (2). An evaluation of the curative effects of pyrimethamine and sulfadiazine, alone and in combination, on experimental mouse toxoplasmosis. *Antibiot. & Chemother.* **5** 1955: 529-539.

Eyles, D. E. & Coleman, N. (3). The effect of sulfadimetine of sulfasuxazole, and sulfapyrazine against mouse toxoplasmosis. *Antibiot. & Chemother.* **5** 1955: 525-528.

Eyles, D. E. & Coleman, N. (4). Relationship of size of inoculum to time of death in mice infected with *Toxoplasma gondii*. *J. Parasit.* **42**: 272-276, fig.

Eyles, D. E., Coleman, N. & Cavanaugh, D. J. Preservation of *Toxoplasma gondii* by freezing. *J. Parasit.* **42**: 408-413, fig.

Eyles, D. E. & Jones, F. E. The chemotherapeutic effect of pyrimethamine and sulfadiazine on toxoplasmosis on the Norway rat. *Antibiot. & Chemother.* **5** 1955: 731-734.

Eyles, D. E. *see* Gibson, C. L.

Eyles, D. E. *see* Jeffery, G. M.

Fabiani, G. & Orfila, J. (1). Action d'une traitement sulfamidé sur le paludisme expérimental de la souris blanche. *C.R. Soc. Biol. Paris* **148** 1954: 1390-1392.

Fabiani, G. & Orfila, J. (2). Recherche du pouvoir séro-protecteur chez le rat infecté expérimentalement par *Plasmodium berghei*. *C. R. Soc. Biol. Paris* **150**: 1182-1184.

Fabiani, G. & Orfila, J. (3). Intérêt de l'épreuve péritonéale au cours du paludisme des rongeurs. *C. R. Soc. Biol. Paris* **150**: 168-170.

Fabiani, G. & Orfila, J. (4). Le paludisme expérimental du souriceau influence de allaitement maternel. *Bull. Soc. Path. exot.* **49**: 704-713, figs.

Fairbairn, H. The infectivity to man of syringe-passaged strains of *Trypanosoma rhodesiense* and *T. gambiense*. *Ann. trop. Med. Parasit.* **50**: 167-171.

Fallis, A. M., Anderson, R. C. & Bennett, G. F. Further observations on the transmission and development of *Leucocytozoon simondi*. *Canad. J. Zool.* **34** : 389-404, figs.

Fallot, P., Delga, M. D. & Magné, J. Présence de l'Eocène inférieur dans le Rif septentrional (Maroc). *C.R. Acad. Sci. Paris* **243** : 1975-1981.

Farmer, J. N. *see* Becker, E. R.

Farr, M. M. Survival of the protozoan parasite, *Histomonas meleagridis*, in faeces of infected birds. *Cornell Vet.* **46** : 178-181, fig.

Faune, A. *see* Depieds, R.

Faune, A. *see* Ranque, J.

Fauré-Fremiet, E. (1). Mitochondries et bactéries symbiotes chez les Ciliés. *Publ. Un. int. Sci. biol. (B) No. 21* : 31-32.

Fauré-Fremiet, E. (2). Microscopie électronique de quelques Ciliés. *Bull. Soc. zool. Fr.* **81** : 9-11.

Fauré-Fremiet, E., Rouiller, C. & Gauchery, M. (1). Structure et origine du pédoncule chez *Chilodochona*. *J. Protozool.* **3** : 188-193, figs.

Fauré-Fremiet, E., Rouiller, C. & Gauchery, M. (2). Les structures myoïdes chez les ciliés. Étude au microscope électronique. *Arch. Anat. micr. Morph. exp.* **45** : 139-161, figs.

Fauré-Fremiet, E., Rouiller, C. & Gauchery, M. (3). L'appareil squelettique et myoïde des Urcéolaires ; étude au microscope électronique. *Bull. Soc. zool. Fr.* **81** : 77-84.

Fauré-Fremiet, E., Rouiller, C. & Gauchery, M. (4). La structure fine des ciliés. Présentation de micrographies électroniques. *Bull. Soc. zool. Fr.* **81** : 168-170.

Fauré-Fremiet, E. *see* Barbier, M.

Fauré-Fremiet, E. *see* Rouiller, C. R.

Faust, E. C. (1). History of human parasitic infections. *Public Hlth. Rep. Wash.* **70** 1955 : 958-965.

Faust, E. C. (2). The amebiasis problem. *Antibiot. Med.* **1** 1955 : 596-602.

Fedecka, B. [Quantitative Untersuchungen des Geotropismus bei *Paramecium caudatum*.] *Folia biol.* **4** : 65-76. [German summary : 74.]

Feldman, H. A. The relationship of *Toxoplasma* antibody activation to the serum-properdin system. *Ann. N.Y. Acad. Sci.* **66** : 263-267.

Feldman, H. A. & Miller, L. T. (1). Serological study of toxoplasmosis prevalence. *Amer. J. Hyg.* **64** : 320-335.

Feldman, H. A. & Miller, L. T. (2). Congenital human toxoplasmosis. *Ann. N.Y. Acad. Sci.* **64** : 180-184.

Fendel, H. Eine toxoplasmotische Zwillungsgebart. *Virchow's Arch. Berlin* **327** 1955 : 293-303, figs.

Feo, L. G. The incidence of *Trichomonas vaginalis* in the various age groups. *Amer. J. trop. Med. Hyg.* **5** : 786-790.

Ferasin, F. Studio di una serie cretacea nella bassa valle de Piave. [Foraminifera.] *Boll. serv. Geol. Ital.* **78** : 243-263, figs.

Fernandez-Galiano, D. (1). Los sistemas fibrilares de las especies del género *Balantidium*. II. *Balantidium entozoon* y *Balantidium galianoi*. *Trab. Inst. Cienc. nat. Acosta. Biol.* **4** : 69-90, figs.

Fernandez-Galiano, D. (2). El aparato neuromotor de *Eudiplodinium maggii* Fior. *Bol. Soc. esp. Hist. nat. Biol.* **53** : 53-76, figs.

Ferreira, J. M. News-Portugal. *Micropaleontology* **2** : 98.

Ferreira, J. M. & Rocha, A. T. Sur la decouverte de "Lagena X" au Portugal. *Com. Serv. Geol. Portugal* **36** : 83-86, figs.

Ferreira, J. M. *see* Rocha, A. T.

Ficq, A. Incorporation de phénylalanine-3-¹⁴C dans les fragments nucléés et anucléés d'amibes. *Arch. internat. Physiol.* **64** : 129-130.

Fidalgo, M. A. Diagnostico de la tripanosomiasis. *Med. colon.* **25** 1955 : 138-150.

Field, J. W. & Shute, P. G. The microscopic diagnosis of human malaria. II. A morphological study of the erythrocytic parasites. Kuala Lumpur. (Inst. for Medical Research) 1956, pp. xii+251, 59 pls. 37 figs.

Fife, E. H. *see* Chaffee, E. F.

Figares, E. *see* Basnuevo, J. G.

Filipponi, A. Dimorfisme sessuale nei trifoziote del genere *Gigaductus* (Sporozoa, Gregarinidae, Gigaductidae). R.C. Ist. sup. Sanit. **18** 1955 : 97-114, figs.

Filliartre, M. le *see* Vargues, R.

Filliartre, M. le *see* Verain, A.

Finger, J. Immobilizing and precipitating antigens of *Paramecium*. Biol. Bull. Woods Hole **111** : 358-363.

Finlay, P. & Manwell, R. D. *Toxoplasma* from the crow, a new natural host. Exper. Parasit. **5** : 149-153.

Fischer, W. A. The foraminifera and stratigraphy of the Colorado group in Central and Eastern Colorado. Univ. Colo. Stud. Gen. Ser. **29** 1954 : 9-10.

Fjeld, P. (1). On some marine Psammobiotic Ciliates from Drøbak (Norway). Nytt Mag. Zool. **3** 1955 : 5-65, figs.

Fjeld, P. (2). On *Spirobutschliella clignyi* (Ciliata, Astomata) from the Oslofjord. J. Protozool. **3** : 63-68, figs.

Flandrin, J. (1). Les chaînes atlasiques et la bordure nord du Sahara. [Foraminifera.] 19th Congr. géol. Inter. Algér. Monogr. Région (1) Algérie **14** 1952 : 1-81, figs.

Flandrin, J. (2). La Chaîne du Djurd-jura. [Foraminifera]. 19th Congr. géol. Inter. Algér. Monogr. Région (1), **19** 1952 : 1-49, figs.

Flandrin, J. *see* Flandrin, L. D.

Flandrin, L. D. & Flandrin, J. Sur la présence du Miocène a Miogypsines dans les monts de la Haute Medjerda. Bull. Soc. géol. Fr. (6) **4** 1954 : 415-419, figs.

Fleming, C. A. Castlecliffian fossil from Ohope Beach, Whakatanu. N.Z. J. Sci. Tech. **36B** 1955 : 511-522, figs.

Flemeth, T. H. *see* Fulton, J. D.

Floch, H. & Boulan, S. Sur deux nouveaux cas de schizotrypanosomiase humaine américaine en Guyane Française. Arch. Inst. Pasteur Guayane Française, publ. no. 412, p. 1-5.

Foley, G. E. *see* Winter, W. D. Jr.

Fort, M. *see* Schwetzel, J.

Fournier, G. New methods and techniques in the photography of microfossils. Micropaleontology **2** : 37-56, figs.

Franceschi, T. Considerazioni preliminari sull'addizione di paraminosalicilato di sodio in culture di *Colpoda* (Protozoi, Infusori). Boll. Zool. **21** 1954 : 231-234.

Franchino, E. M., Grun, J. & Stauber, L. A. A method for screening compounds against visceral leishmaniasis in the hamster. J. Parasit. **42** Suppl. : 22.

Frank, O. *see* Scher, S.

Fremming, B. D., Vogel, F. S., Benson, R. E. & Young, R. J. A fatal case of amebiasis with liver abscesses and ulcerative colitis in a chimpanzee. J. Amer. vet. med. Ass. **126** 1955 : 406-407, figs.

Frenkel, J. K. Pathogenesis of toxoplasmosis and of infections with organisms resembling *Toxoplasma*. Ann. N.Y. Acad. Sci. **64** : 215-251, figs.

Freydanck, H. Die Abhängigkeit einer rezenten Foraminiferen-Vergesellschaftung von Sediment und Strömungsgeschwindigkeit des Wassers. Neues Jb. Min. Geol. Paläont. **100** 1955 : 332-349, figs.

Freyvogel, T. (1). Zur Frage der Wirkung des Höhenklimas auf den Verlauf akuter Malaria. Acta Trop. **13**, sep. no. 1 p. 1-57, figs.

Freyvogel, T. (2). Malaria in tiefer und mittlerer Höhenlage. Acta Trop. **13**, sep. no. 1, p. 58-81.

Frisch, D. & Hirshfield, H. I. *In vivo* induction of melanization in *Amoeba proteus*. J. Protozool. **3**, Suppl.: 10.

Frizzell, D. L. & Middour, E. S. Paleocene radiolaria from south-eastern Missouri. Bull. Univ. Missouri Sch. Min. Met. Tech. Ser. **77** 1951: 1-37, figs.

Frizzell, D. L. & Schwartz, E. A new lituolid foraminiferal genus from the Cretaceous, with an emendation of *Cribrostomoides* Cushman. Bull. Univ. Missouri Sch. Min. Met. Tech. Ser. **76** 1950: 1-12, figs.

Fromaget, J. Aperçu de nos connaissances sur la géologie de l'Indochine en 1948. [Foraminifera]. 18th int. Congr. Geol. Gt. Britain Proc. Sect. M. **13** 1952: 63-77, figs.

Fromentin, H. Action de l'acide salicyclique et de quelques-mis de ses dérivés sur l'infection expérimentale du rat blanc à *Trypanosome gambiense*. Bull. Soc. Path. exot. **49**: 272-277.

Fromentin, H., Sandor, M., Sandor, G. & Levaditi, J. Étude humorale de la trypanosomiase expérimentale du rat. C.R. Acad. Sci. Paris **243**: 1077-1080.

Frye, W. W. The pathogenesis and therapy of human amebiasis. Pakist. med. J. **7** 1955: 11-27.

Fuchs, H. [Examen de la fréquence de dimensions d'une espèce de Nummulites (Camerina).] Földt. Közl. **85** 1955: 466-471, figs. [French summary: 472.]

Fujimoto, H. & Igō, H. *Hidaella*, a new genus of the Pennsylvanian fusulinids from the Fukuji district, eastern part of the Hida mountainland, central Japan. Trans. palaeont. Soc. Japan N.S. **18** 1955: 45-48, fig.

Fujita, Y. On some species of the genera *Elphidium*, *Elphidiella*, and *Cribrorhynchium* — Variation of Japanese *Elphidium crispum*. Sci. Rep. Tokyo Kyoiku Daig **4C**: 219-233, figs.

Fullerton, W. J. *see* Jellison, W. L.

Fulmer, C. V. Stratigraphy and paleontology of the typical Markley and Nortonville formations of Central California (abstr.) [Foraminifera]. Bull. geol. Soc. Amer. **65** 1954: 1341.

Fulton, J. D. & Flewett, T. H. The relation of *Plasmodium berghei* and *Plasmodium knowlesi* to their respective red-cell hosts. Trans. R. Soc. trop. Med. Hyg. **50**: 150-156, figs.

Fulton, J. D. & Grant, P. T. (1). Experiments on the mode of action of stilbamidine. Ann. trop. Med. Parasit. **50**: 381-384.

Fulton, J. D. & Grant, P. T. (2). The sulphur requirements of the erythrocytic form of *Plasmodium knowlesi*. Biochem. J. **63**: 274-282, fig.

Fulton, J. D. & Spooner, D. F. (1). Inhibition in the respiration of *Trypanosoma rhodesiense* by thiols. Biochem. J. **63**: 475-481.

Fulton, J. D. & Spooner, D. F. (2). The *in vitro* respiratory metabolism of erythrocytic forms of *Plasmodium berghei*. Exper. Parasit. **5**: 59-78, figs.

Gaardner, K. R. (1). Coccolithinose, Silicoflagellatae, Pterospermataceae and other forms from the "Michael Sars" North Atlantic Deep Sea Expedition 1910. Rept. Sars N. Atl. Deep Sea Exped. **2** 1954: 1-20, figs.

Gaardner, K. R. (2). Dinoflagellatae from the "Michael Sars" North-Atlantic Deep Sea Expedition 1910. Rept. Sars N. Atl. Deep Sea Exped. **2** 1954: 21-82, figs.

Gabaldon, A. The time required to reach eradication in relation to malaria constitution. Amer. J. trop. Med. Hyg. **5**: 966-976.

Gaither, N. *see* Kimball, R. F.

Galliard, H., Lapierre, J. & Murard, J. Evolucion de la infeccion for *Plasmodium berghei* en las ratas recién nacidas. Med. colon. **26** 1955: 403-413, figs.

- Gallitelli, E. M. (1). Origine, stato attuale e finalità di un laboratorio di micropaleontologie nell'Istituto Geologica di Modena. Atti Accad. Modena (5) **11** 1953 : 150-159.
- Gallitelli, E. M. (2). Qualche appunto sulla stratigrafia e la tettonica della regione di Castelvetro (Modena). [Foraminifera]. Atti Accad. Modena (5) **12** 1954 : 172-200, figs.
- Gallitelli, E. M. (3). Marne ed argille a *Schackoina* e *Gümbelina* nella formazione a fucoidi ed elminioidei di Serramazzone (Modena). Atti Accad. Modena (5) **12** 1954 : 201-210, figs.
- Gallitelli, E. M. (4). Foraminiferi cretacei delle marne a fucoidi di Serramazzone (Appennino modenese). Atti Accad. Modena (5) **13** 1955 : 175-204.
- Gallitelli, E. M. (5). Variabilità e distribuzione stratigrafica del gen. *Schackoina* Thalmann. Atti Accad. Modena (5) **13** 1955 : 205-212.
- Gallitelli, E. M. (6). Una revisione della famiglia Heterohelicoidea Cushman. Atti Accad. Modena (5) **13** 1955 : 213-223.
- Gallitelli, E. M. (7). *Bronnimannella*, *Tappanina*, and *Trachelinella*, three new foraminiferal genera from the Upper Cretaceous. Contr. Cushman Fdn. Forum. Res. **7** : 35-39, figs.
- Gamundi, J. see Colom, G.
- Ganapati, P. N. & Rao, M. V. N. Macronuclear reorganization in *Dio-phrys appendiculata* (Ciliata Hypotricha). Curr. Sci. **25** : 360-361, fig.
- Ganapati, S. V. The limnology of two minor irrigation reservoirs near Madras. I. The Errakuppan reservoir. Hydrobiologia **8** : 365-380.
- Ganelina, R. A. [Foraminifera of the Visean deposits of the north-western region of the Moscow Basin]. [In Russian]. Trudy Vses. Neft. Nauch.-issl. Geol. Raz. Inst. n. ser. **98** 1956 : 61-183, figs.
- Ganguly, D. N. & Banerjee, S. K. A study of pH of the body of some parasitic ciliates and its effect on the host with a comment on the validity of Methyl green Pyronin stain (Brachet). Arch. Protistenk. **101** : 203-214.
- Garcia, A. P. see Cardoso, R. A. de A.
- Garcia, L. see Gutierrez Ballesteros, E.
- Garetzki, R. G. & Nemkov, G. I. [New exposures of the nummulitic horizons in the Northern Pre-Ural.] C.R. Acad. Sci. U.R.S.S. **108** : 1141-1143. [In Russian].
- Garjeanne, A. J. M. *Badhamia ovispora* ein voor Nederland nieuwe Slijmzwam. Levende Nat. **59** : 273-276, figs.
- Garnham, P. C. C. Isolation of a new strain of *Trypanosoma cruzi*. Trans. R. Soc. trop. Med. Hyg. **50** : 613.
- Garnham, P. C. C., Lainson, R. & Gunders, A. E. Some observations on malaria parasites in a chimpanzee, with particular reference to the persistence of *Plasmodium reichenowi* and *Plasmodium vivax*. Ann. Soc. belge Med. trop. **36** : 811-822, figs.
- Garnham, P. C. C. see Rego, S.
- Garrido, J. A. see Matilla, V.
- Gates, D. W. & Roby, T. O. The status of the complement-fixation test for the diagnosis of anaplasmosis in 1955. Ann. N.Y. Acad. Sci. **64** : 31-39.
- Gauchery, M. see Dragesco, J.
- Gauchery, M. see Fauré-Fremiet, E.
- Gauchery, M. see Rouiller, C. R.
- Gavrilita, L. see Wasserman, L.
- Geib, K. W. see Atzbach, O.
- Gellért, J. Ciliaten des sich unter dem Moosrasen auf Felsen gebildeten Humus. Acta biol., Budapest **6** : 337-372, figs.
- George, T. N. Carboniferous Main Limestone of the East Croft in South Wales [Foraminifera]. Quart. Journ. geol. Soc. London **111** [1955] 1956 : 309-322, figs.

Georgévitch, J. Sur l'appareil pas parabasal de *Proteromonas melissensis*. Bull. Acad. Serb. Sci. N.S. 16 : 51-55, fig.

Geroch, S. *Saccamminoides* n. gen. (Foraminifera) from the Eocene in the Flysch Carpathians. Ann. Soc. géol. Pologne 23 1955 : 53-63, fig. [In Polish, Russian and English.]

Geroch, S. & Gradzinski, R. [Stratigraphy of the Sub-Silesian Series in the tectonic window of Żywiec (Western Carpathian).] Ann. Soc. géol. Pologne 24 1955 : 3-64, figs. [In Polish, Russian and English.]

Gerwel, C. [Die Bekämpfung der Darmparasiten des Menschen in Polen.] Wiad. Parazyt. 1 1955 : 53-82. [German summary.]

Gibbs, A. J. *Perezia* sp. (fam. Nosematidae) parasitic in the fat-body of *Gonocephalum arenarium* (Coleoptera : Tenebrionidae). Parasitology 46 : 48-53, figs.

Gibson, C. L., Eyles, D. E., Coleman, N. & Smith, C. S. Serological response of a rural negro population of the Sabin-Feldman cytoplasm-modifying test for toxoplasmosis. Amer. J. trop. Med. Hyg. 5 : 772-783 figs.

Gibson, F. D. see Bruce-Chwatt, L. J.

Giese, A. C. see Brandt, C. L.

Gigon, W. Geologie des Habkernales und des Quellgebietes der Grossen Emme. [Foraminifera.] Verh. naturf. Ges. Basel 63 1952 : 49-136, figs.

Gilman, L. C. (1). Distribution of the varieties of *Paramecium caudatum*. J. Protozool. 3 Suppl. : 4.

Gilman, L. C. (2). Size differences among twelve varieties of *Paramecium caudatum*. J. Protozool. 3 Suppl. : 4.

Gilson, M. E. see Nardone, R. M.

Giñezinskaya, T. A. [On the parasites of the goose in Leningrad region.] Trav. Soc. Nat. St. Petersburg. (Leningr.) 69 1947 : 22-30. [English summary.]

Gingrich, W. D. see Celaya, B. L.

Giroud, P. see Le Sac, P.

Gispen, R. see Heyl, J. G.

Giuliani, V. Osservazioni sul *Trypanosoma lewisi* (Kent) dei ratti di Aquila. Nuovi Ann. Igiene Microbiol. 6 1955 : 374-376. [English summary.]

Glangeaud, L., Aymé, A., Caire, A., Mattauer, M. & Muraour, P. Histoire géologique de la province d'Alger. [Foraminifera.] 19th Congr. inter. Géol. Algér. Monogr. Région (1) Algérie 25 1952 : 1-141, figs.

Glangeaud, L. see Ayme, A.

Glangeaud, L. see Delga, M. D.

Gleason, N. N. see Mackie, T. T.

Glenn, S. & Manwell, R. D. Further studies on the cultivation of the avian malaria parasites : II. The effect of heterologous sera and added metabolites on growth and reproduction *in vitro*. Exper. Parasit. 5 : 22-23, figs.

Gocht, H. *Rhombodinium* und *Dracodinium*, zwei neue Dinoflagellaten-Gattungen aus dem norddeutschen Tertiär. Neues Jb. Geol. Paläont. B. 2 1955 : 84-92, figs.

Godfrey, D. G. see Taylor, A. E. R.

Goeckeritz, D. see Lynch, J. E.

Goldman, M. Observations on some problems encountered in the routine performance of the dye test for toxoplasmosis. J. clin. Path. 9 : 55-58.

Goldstein, N. O. see Alfert, M.

Golev, B. T. [On the question of the classification of nummulites.] Geol. Sbornik. 1956 : 181-187. [In Russian.]

Gomez Rodríguez, R. J. Estudio de la tripanosomiasis natural del canino (*Canis fam.*) en Venezuela. Rev. Med. Vet. Parasit. Caracas 15 : 63-105, figs.

Gonzales-Mugabura, L. see Payne, E. H.

Goodrich, H. P. Crayfish epidemics Parasitology 140 : 480-483.

Gorbenko, V. F. [On the Senonian deposits on the north-eastern outskirts of the Donetz Ridge.] [Foraminifera.] C.R. Acad. Sci. U.R.S.S. 106 : 106-109. [In Russian.]

Gordon, R. M., Crewe, W. & Willett, K. C. Studies on the deposition, migration and development to the blood forms of trypanosomes belonging to the *Trypanosoma brucei* group I. An account of the process of feeding adopted by the tsetse-fly when obtaining a bloodmeal from the mammalian host, with special reference to the ejection of saliva and the relationship of the feeding process to the deposition of the metacyclic trypanosomes. Ann. trop. Med. Parasit. 50 : 426-437.

Gordon, R. M. & Willett, K. C. A preliminary account of the deposition by the tsetse-fly of the infective forms of *Trypanosoma rhodesiense*, their subsequent migration to the general circulation and their development to the blood forms. Ann. trop. Med. Parasit. 50 : 314-318.

Görges, J. & Penndorf, H. Das niederhessische Tertiär und seine marinen Ablagerungen. [Foraminifera.] Hess. Landes. J. Bodenf. Notizbl. Wiesbaden 6 1952 : 138-146, figs.

Goudkoff, P. P. & Mendoza, N. C. Range chart showing known stratigraphic occurrence of Foraminifera in Eocene of California. Privately mimeograph. Los Angeles 1950 : 1-24.

Gourinard, Y. Le Litoral Oranais (mouvements verticaux et anomalies gravimétrique). [Foraminifera]. 19th Congr. inter. Géol. Alger. Monogr. Région. (1), Algérie 22 1952 : 1-62.

Graaf, F. de (1). De micro-organismen van plancton, lasion en bodem van het plassen gebied Het Hol. Kortenhoef, Amsterdam 1955 : 67-90, figs.

Graaf, F. de (2). Studies on Rotatoria and Rhizopoda from the Netherlands. I. Rotatoria and Rhizopoda from the "Grote Huisven". Biol. Jaarb. 23 : 145-217.

Graaf, F. de & Meijer, W. De combinaties van micro-organismen in de trilvenen van het plassen gebied Het Hol. Kortenhoef, Amsterdam 1955 : 109-118, fig.

Gradzinski, R. see Geroch, S.

Graham, J. J. Eocene foraminifera from the Woodside district, San Mateo County, California (abstr.). Bull. Amer. Ass. Petrol. Geol. 37 1953 : 2780.

Grainge, E. B. see Jenkins, A. R.

Grant, P. T. see Fulton, J. D.

Grassé, P.-P. L'appareil parabaasal et l'appareil de Golgi sont un même organite. Leur ultrastructure, leur modes de sécrétion. C.R. Acad. Sci. Paris 242 : 858-861, figs.

Graves, R. W. jr. see Plumley, W. J.

Grayson, J. F. The conversion of calcite to fluorite. Micropaleontology 2 : 71-78, figs.

Grayshon, J. E., Osborne, M. M. & Bishop, M. S. A lithofacies study of the Frio Section in Jackson and Wharton Counties, Texas. Trans. Gulf. Assoc. geol. Soc. Texas 6 : 237-240, figs.

Grebecki, A. & Kuźnicki, L. [Studies on the ability of *Paramecium caudatum* to resist changes in chemical media commonly occurring under natural conditions.] Folia biol. Warszawa 4 : 93-118. [English summary : 115.]

Green, J. Records of Peritrichs (Protozoa, Ciliata) on aquatic insects. Ent. mon. Mag. 89 1951 : 107.

Greenberg, B. G. see Mackie, T. T.

Greenberg, J. (1). Differences in the course of *Plasmodium berghei* infections in some hybrid and back-cross mice. Amer. J. trop. Med. Hyg. 5 : 19-28, figs.

Greenberg, J. (2). Mixed lethal strains of *Plasmodium gallinaceum* : Drug-sensitive, transferable (SP) X drug-resistant, non-transferable (B1). Exper. Parasit. 5 : 359-370, figs.

Greenberg, J. & Bond, H. W. Further studies on cross-resistance between pyrimethamine and related compounds. *Amer. J. trop. Med. Hyg.* **5** : 14-18, fig.

Greenberg, J., Taylor, D. J. & Bond, H. W. Glucosamine in the culture of *Entamoeba histolytica* with a mixed bacterial flora. *Amer. J. trop. Med. Hyg.* **5** : 62-66.

Greenberg, J. *see* Taylor, D. J.

Grekoff, N. & Gubler, Y. Données complémentaires sur les terrains tertiaires de la Nouvelle-Calédonie. [Foraminifera.] *Rev. Inst. Franç. Pétrole et Ann. Combust. Liq.* **6** 1951 : 283-293.

Grell, K. G. (1). Protozoa and algae. *Ann. Rev. Microbiol.* **10** : 307-328.

Grell, K. G. (2). Untersuchungen über die Fortpflanzung und Sexualität de Foraminiferen. I. *Rotaliella roscoffensis*. *Arch. Protistenk.* **102** : 147-164, figs.

Grell, K. G. (3). Prätozoologie. Springer-Verlag, Berlin 1956 : vii+284, figs.

Grell, K. G. (4). Die Kerndualismus der Foraminifere *Glabratalia sulcata*. *Z. Naturf.* **11B** : 366-368, figs.

Grell, K. G. (5). Über die Elimination somatischer Kerne bei heterokaryotischen Foraminiferen. *Z. Naturf.* **11B** : 759-761, figs.

Grewing, W. *see* Hellbrugge, T.

Grey, R. R. Eocene in the Philippines. *Proc. Pan-Pacif. sci. Congr.* 8th **2** : 503-513, figs.

Grill, R. (1). News-Austria. *Micropaleontology* **2** : 305-306.

Grill, R. (2). Neue Jodwasserbohrungen in Bad Hall. [Foraminifera.] *Verh. Geol. Bundesanst. Wien* 1952 : 85-92, figs.

Grill, R. (3). Über die Verbreitung des Badener Tegels im Wiener Becken. [Foraminifera.] *Verh. geol. Bundesanst. Wien* **2** 1955 : 113-120, fig.

Grill, R. *see* Papp, A.

Grimsdale, T. F. & Morkhoven, F. P. C. M. van. The ratio between pelagic and benthonic Foraminifera as a means of estimating depth of deposition of sedimentary rocks. *Proc. 4th World Petrol. Congr. Sect. I/D, Roma* **4** 1954 : 473-491, figs.

Grishkevich, G. N. [Sarmatian beds of the Transpathia district of the SSSR.] [Foraminifera.] *Geol. Sbornik.* 1956 : 158-190. [In Russian.]

Grøntved, J. Planktological Contributions. II. Taxonomical studies in some Danish coastal localities. *Medd. Danm. Fisk. Havundersøg* **1** : 1-13, figs.

Groot, A. A. de *see* Hoogenraad, H. R.

Gross, J. A. The temperature dependence of the inhibition of growth of a protozoan by antibiotics. *Biochim. biophys. Acta* **18** 1955 : 452-453, figs.

Gross, J. A. & Jahn, T. L. (1). Growth characteristics of drug-bleached euglenas. *J. Protozool.* **3** Suppl. : 6.

Gross, J. A. & Jahn, T. L. (2). Temperature tolerance of some bleached strains of *Euglena*. *J. Protozool.* **3** Suppl. : 7.

Gross, J. A., Wirtschafter, S. K., Bernstein, E. & James, T. W. Monochromatic microscopy of *Euglena*. *Trans. Amer. micr. Soc.* **75** : 480-483, fig.

Grossgeim, V. A. [Cross-section of the Miocene in the River Zibya of the north-western Caucasus.] [Foraminifera.] *C.R. Acad. Sci. U.R.S.S.* **108** : 523-525. [In Russian.]

Grozdilova, L. P. [Microfauna of the Upper Artinskian deposits of the lower Permian of the Western Urals.] [Foraminifera.] [In Russian.] *Trudy Vses. Neft. Nauch.-issl. Geol. Raz. Inst. n. ser.* **98** 1956 : 521-531, figs.

Grun, J. *see* Franchino, E. M.

Guba, F. *see* Hajóssi, G.

Gubler, Y. *see* Grekoff, N.

Guillaume, L. Les formations quaternaires de la plage du débarquement britannique de Saint-Crême de Fresne-Asnelles Belle Plage (Calvados). [Foraminifera.] 18th int. Congr. Gt. Britain 1948. Proc. Sect. M. **13** 1952 : 105-113, figs.

Guillemot, J. La bordure sud-tellienne dans le Titteri. [Foraminifera.] 19th Congr. géol. Inter. Algér. Monogr. Région (1) Algérie **9** 1952 : 1-61, figs.

Guimarães, F. N. see Cardoso, R. A. de A.

Gullentops, F. Les foraminifères des sables de Vieux-Jones (Tongrien Supérieur). Mem. Inst. Géol. Univ. Louvain **20** : 1-25, figs.

Gumble, A. R. see Hewitt, R. I.

Gunders, A. E. The experimental use of *Rattus* (*Mastomys*) *coucha* for various protozoal infections. Trans. R. Soc. trop. Med. Hyg. **50** : 300-301.

Gunders, A. E. see Garnham, P. C. C.

Gutierrez, J. The metabolism of cellulose-digesting, symbiotic flagellates of the genus *Trichonympha* from the termite *Zootermopsis*. J. Protozool. **3** : 39-42 figs.

Gutierrez, J. & Hungate, R. E. Factors in the nutrition of the rumen ciliate *Dasytricha ruminantium*. J. Protozool. **3** Suppl. : 14.

Gutierrez Ballasteros, E. & Garcia, L. El cultivo sistemático en la búsqueda de protozoarios intestinales de hombre. Rev. Inst. Salubr. Enferm. trop. Méx. **16** : 1-7.

Haeck, M.-C. Bijdrage tot de kennis der drentse Rhizopoda testacea en Heliozoa. Biol. Jaarb. **23** : 254-264, figs.

Hagn, H. (1). Zur Altersfrage der bunten "Neocommergel" im Hirschbachtobel bei Hindeläng (Allgau). [Foraminifera.] Erdöl u. Kohle **5** 1952 : 768-770, figs.

Hagn, H. (2). Ein Fund der Gattung *Queralina* Marie 1950 (Foram.) im Unter-Oligozän von Reit. i. Winkl. Ein Beitrage zur Mikropaläontologie des inneralpinen Tertiärs. Geol. Jahrb. Hannover **68** 1953 : 331-340, figs.

Hagn, H. (3). Geologisch-paläontologische Untersuchungen im Helvetikum und Flysch des Gebietes von Neubevern am Inn (Oberbayern). [Foraminifera.] Geol. bavar. **22** 1954 : 1-136, figs.

Hagn, H. (4). Paläontologische Untersuchungen am Bohrgut der Bohrungen Ortenburg CF 1001, 1002 und 1003 in Niederbayern. Z. dtsh. geol. Ges. **105** 1953 [1955] : 324-359, figs.

Hagn, H. (5). Zur Altersfrage der Nierentaler Schichten im Becken von Gosau. [Foraminifera.] Neues Jb. Geol. Paläont. B **1** 1955 : 16-28.

Hagn, H. (6). Zur Kenntnis alpina Eozän-Foraminiferen III. *Eorupertia cristata* (Gümbel). Paläont. Z. **29** 1955 : 46-73, figs.

Hagn, H. & Zeil, W. (1). Globotruncanen aus dem Ober-Cenoman und Unter-Turon der Bayerischen Alpen. Ecl. geol. helv. **47** 1954 : 1-60, figs.

Hagn, H. & Zeil, W. (2). Der Geröllbestand der jungkattischen Konglomerate im Staffelsee bei Murnau (Oberbayern) und seine Bedeutung für die Paläogeographie der subalpinen Molasse. [Foraminifera.] Geol. Jb. **69** 1955 : 537-598, fig.

Haiba, M. H. Further study on the susceptibility of murines to human giardiasis. Z. Parasit. **17** : 339-345, figs.

Hajóssi, G. & Guba, F. Die submikroskopische Zellmembran von *Endamoeba blattae* Bütschli. Acta Biol. Budapest **6** : 279-287, figs.

Halbouty, M. T. & Hardin, G. C. jr. New exploration possibilities on piercement-type salt domes established by thrust fault at Boling salt dome, Wharton County, Texas. [Foraminifera.] Bull. amer. Ass. Petrol. Geol. **38** 1954 : 1725-1740, figs.

Hall, R. P. Induction of sensitivity to sulfanilamide by prolonged exposure of *Chilomonas* to p-aminobenzoic acid. J. Protozool. **3** Suppl. : 13.

Halloran, P. O'C. Diseases of wild mammals and birds. Amer. J. vet. Res. **16**, 61 part 2 1955 : 1-465.

Ham, W. E. Collings Ranch conglomerate, late Pennsylvanian, in Arbuckle Mountains, Oklahoma. [Foraminifera.] Bull. amer. Ass. Petrol. Geol. **38** 1954 : 2035-2045, figs.

Hamet, R. La cinchonamine et l'aricine ont-elles une influence sur l'infection de la souris par *Plasmodium berghei* Vincke et Lips. C.R. Soc. Biol. Paris **150** : 1883-1885.

Hammond, D. M. & Leidl, W. (1). Experimental genital infections of bulls with trichomonads from cecum and feces of swine. J. Protozool. **3** Suppl. : 1.

Hammond, D. M. & Leidl, W. (2). Experimental infections of the genital tract of swine and goats with *Trichomonas foetus* and *T. species* from the cecum of swine. J. Parasit. **42** Suppl. : 22.

Hanna, G. D. Geology of the continental slope off central California. [Foraminifera.] Proc. Calif. Acad. Sci. **27** 1952 : 325-358, figs.

Hansen, J. B. see Petersen, J. B.

Hanson, E. D. Spontaneous mutations affecting the killer character in *Paramecium aurelia*, variety 4. Genetics **41** : 21-30, fig.

Hanson, H. C. see Levine, N. D.

Hanson, R. W. Nitrogen requirements of a colorless protozoan flagellate. J. Ala. Acad. Sci. **26** 1954 : 83-84.

Hanzliková, E. [Micropaleontological-stratigraphical evaluation of the bore Žukov NP 15.] [Foraminifera.] Sborn. geol. Ust. čsl. **20** 1953 : 85-167, figs. [Russian and English summaries.]

Harant, H. & Ruffié, J. Evolution et parasitisme. Biol. Méd. Paris **45** : 382-394.

Harant, H. see Bouët, L.

Hardenbrook, H. J. see Levine, N. D.

Hardin, G. C. jr. see Halbouty, M. T.

Harding, D. E. (1). Some responses made by ten duck hosts inoculated with phanerozoite stages

of *Plasmodium lophurae*. Proc. Iowa Acad. Sci. **62** 1955 : 539-542, figs.

Harding, D. E. (2). Some responses of chickens to infection with *Plasmodium lophurae*. Proc. Iowa Acad. Sci. **62** 1955 : 542-549.

Harman, W. J. & Corliss, J. O. Isolation of earthworm setae by use of histophagous Protozoa. Trans. Amer. micr. Soc. **75** : 332-333.

Harrington, G. L. *Ammobaculites*, migrant or recent introduction to California. Contr. Cush. Fdn. Foram. Res. **7** : 29-30.

Harris, K. & Bradley, D. E. Electron microscopy of *Synura* scales. Discovery **17** : 329-332, figs.

Hartmann, M. Neue Befunde über Befruchtungsstoffe (Gamone) und ihre theoretische Bedeutung. Naturwissenschaften **43** : 313-317, figs.

Hartz, P. H. Use of the phase-contrast method in parasitological examination of faeces. Docum. Med. geogr. trop. **8** : 164-166.

Harwood, P. D., Stunz, D. I. & Wolfgang, R. W. (1). The efficacy of a nitrofurant mixture as an avian coccidiostat. J. Protozool. **3** Suppl. : 8.

Harwood, P. D., Stunz, D. I. & Wolfgang, R. W. (2). The optimum in coccidiostatic activity. J. Parasit. **42** Suppl. : 25.

Hashimoto, K. (1). On the relationship between the formation of the silver line system and the behaviour of the cytoplasmic inclusions at the cystic stage of peritrichous ciliate *Vorticella microstoma*. Zool. Mag. Tokyo **64** 1954 : 237-249, figs.

Hashimoto, K. (2). On the behaviour of the refractile bodies at the cystic stage of *Stylonychia histrio* S. Müll. Zool. Mag. Tokyo **64** : 237-242, figs.

Hashimoto, K. (3). Mechanism of the development of the cilium at cystation of *Colpoda cucullus* Müll. Zool. Mag. Tokyo **65** : 223-227.

Hashimoto, W. see Endo, R.

Hashimoto, S. see Minato, M.

Hassan, M. Y. The occurrence of *Nummulites deserti* de la Harpe in Kharga Oasis and the age of the Lower Libyan in southern Egypt. Bull. Inst. Desert Egypt **3** 1953: 114-122, fig.

Hassan, M. Y. see Youssef, M. I.

Harlic, O. Die protozoologie in der erforschung der natuerlichen infektionsherde. Natuerliche Infektionsherde [Symposium] p. 361. Slovak. Acad. Sci. Bratislava. [With German and Russian summaries.]

Hawes, R. S. J. The dysentery amoeba of man. New Biol No. 21: 87-101, figs.

Hawgood, B. C. see Ridley, D. S.

Hayasaka, J. & Minato, M. The Japanese Carboniferous (abstr.). [Foraminifera.] Rés. des Comm. 19th Congr. géol. Inter. Algér. 1952: 112.

Hayashi, S. Notes on the distribution and seasonal variation of *Paramecium* observed in the city of Sapporo. Zool. Mag. Tokyo **65**: 287-289, figs.

Haynes, J. Certain smaller British Paleocene foraminifera Part I. Contr. Cush, Fdn. Foram. Res. **7**: 79-101, figs.

Heek, W. A., Yenne, K. A. & Henbest, L. G. Boundary of the Pennsylvanian and Permian in the subsurface Scurry Reef, Scurry County, Texas. [Foraminifera.] Rept. Invest. Bur. Econ. Geol. Univ. Texas **13** 1952: 1-17, figs.

Heisch, R. B. Zoonoses as a study in ecology, with special reference to plague, relapsing fever, and leishmaniasis. Brit. med. J. **2**: 669-673.

Heissin, E. M. [The taxonomy of the Sporozoa (Type Protozoa).] Zool. Zh. **35**: 1281-1298. [English summary: 1296-8.]

Hela, I. Ecological observations on a locally limited red tide bloom. Bull. mar. Sci. Gulf & Caribbean **5** 1955: 269-291, figs.

Hellbrugge, T., Spiegler, W. & Grewing, W. Klinische, morphologische und serologische Befunde bei

der generalisierten Toxoplasmose der ratte. Zbl. Bakt. **165**: 495-506, figs. [English summary.]

Heller, I. M. & Kopac, M. J. (1). A microincinerative study of normal and starving *Amoeba proteus*. Exp. Cell Res. **8** 1955: 563-566, figs.

Heller, I. M. & Kopac, M. J. (2). Cytochemical reactions of normal and starving *Amoeba proteus* I. Exp. Cell Res. **8** 1955: 62-76, figs.

Heller, I. M. & Kopac, M. J. (3). Cytochemical reactions of normal and starving *Amoeba proteus*. II. Localization of minerals. Exp. Cell Res. **11**: 206-209, figs.

Hemphill, E. C. see Atchley, F. O.

Henbest, L. G. Significance of evolutionary explosions for diastrophic division of earth history. Introduction to Symposium. [Protozoa.] J. Paleont. **26** 1952: 299-318, figs.

Henbest, L. G. see Heek, W. A.

Henny, S. M. see Lilly, D. M.

Herman, C. M. see Walton, B. C.

Hewitt, R. I. & Gumble, A. R. Antitrypanosomal activity of structural variants of Stylomycin (puromycin). J. Parasit. **42** Suppl.: 21.

Hewitt, R. I., Gumble, A. R., Wallace, W. S. & Williams, J. H. (1). Experimental chemotherapy of trypanosomiasis. V. Effects of puromycin analogues against *Trypanosoma equiperdum* in mice. Antibiot. & Chemother. **5** 1955: 139-144.

Hewitt, R. I., Gumble, A. R., Wallace, W. S. & Williams, J. H. (2). Experimental chemotherapy of trypanosomiasis. IV. Reversal by purines of the *in vivo* activity of puromycin, and an amino nucleoside analog, against *Trypanosoma equiperdum*. Antibiot. & Chemother. **4** 1954: 1222-1227.

Heylman, E. B. Carboniferous fossils from wells in Paradox Basin, Utah. [Foraminifera.] Bull. Amer. Ass. Petrol. Geol. **37** 1953: 2188-2191, figs.

Heyl, J. G. & Gispen, R. A complement fixing *Toxoplasma* antigen prepared from duck eggs and enhanced by phenol. Leeuwenhoek ned. Tijdschr. **21** 1955 : 157-160.

Highman, B. *see* Tobie, E. J.

Hiltermann, H. (1). Micropaleontology. — In Weyl, R. Die Sierra de Bahoruco von Santo Domingo und ihre Stellung im Antillenbogen. N. Jb. Geol. Min. Monat. Abh. **98** 1953 : 1-27, figs.

Hiltermann, H. (2). News-Germany. Micropaleontology **2** : 194-195.

Hiltermann, H. (3). Ten rules concerning the nomenclature and classification of the foraminifera. Micropaleontology **2** : 296-298.

Hiltermann, H. (4). Annotated bibliography of micropaleontology in Germany for 1955. Micropaleontology **2** : 385-392.

Hiltermann, H. & Kremp, G. Mikropaläontologische Fragen zur Stratigraphie des Oberkarbons. [Foraminifera]. Erdöl u. Kohle **5** 1952 : 707-711, fig.

Hirschfield, N. *see* Barwick, R. E.

Hiregaudar, L. S. (1). A new species of *Eimeria* from a cow-calf in Bombay State. Curr. Sci. **25** : 197, fig.

Hiregaudar, L. S. (2). A record of *Globidium leuckarti* (Flesch) from a horse in India. Curr. Sci. **25** : 334-335.

Hirshfield, H. I. & Pecora, P. Studies of isolated *Blepharisma* and *Blepharisma* fragments. J. Protozool. **3** : 14-16, figs.

Hirshfield, H. I. *see* Frisch, D.

Hitchcock, D. J. & Malewitz, T. D. Habitat of *Giardia* in the kitten. J. Parasit. **42** : 286.

Hiwatashi, K. (1). Studies on the conjugation of *Paramecium caudatum*. V. The time of the initiation of nuclear activation. Sci. Rep. Tôhoku Univ. **21** 1955 : 199-206, figs.

Hiwatashi, K. (2). Studies on the conjugation of *Paramecium caudatum*. VI. On the nature of the union of conjugation. Sci. Rep. Tôhoku Univ. **21** 1955 : 207-218, figs.

Hoare, C. A. (1). Intraspecific ecological categories in pathogenic Protozoa. Zool. Zh. (Moscow) **35** : 1113-1117. [Russian with English summary.]

Hoare, C. A. (2). Morphological and taxonomic studies on mammalian trypanosomes. VIII. Revision of *Trypanosoma evansi*. Parasitology **46** : 130-172, figs.

Hoepli, R. The knowledge of parasites and parasitic infections from ancient times to the 17th century. Exper. Parasit. **5** : 398-419.

Hofker, J. (1). Kleinforaminiferen und paläontologische Chronologie. Neues Jb. Geol. Paläont. B. **2** 1955 : 77-81.

Hofker, J. (2). The foraminifera of the Vincentown formation. Rept. McLean Forum. Lab. **2** 1955 : 1-21, figs.

Hofker, J. (3). The structure of *Globorotalia*. Micropaleontology **2** : 371-373, figs.

Hofker, J. (4). Die *Pseudotextularia*-Zone der Bohrung Maasbull I und ihre Foraminiferen-Fauna. Paläont. Zeit. **30** : 59-79, figs.

Hofker, J. (5). Foraminifera Dentata : Foraminifera of Santa Cruz and Thatch Island, Virginia Archipelago, West Indies. Spolia zool. Mus. Hauniens **15** : 1-237, figs.

Hofker, J. (6). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XIV. The genus *Orbignyna*. Natuurh. Maandbl. **45** : 16-19, figs.

Hofker, J. (7). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XV. *Dictyopsella tenuissima* (Reuss). Natuurh. Maandbl. **45** : 28, fig.

Hofker, J. (8). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XVI. *Bolivinoidea polonica* Pozaryska. Natuurh. Maandbl. **45** : 28-29, fig.

Hofker, J. (9). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XVII. *Lagena acuticosta* Reuss. *Natuurh. Maandbl.* **45** : 28, fig.

Hofker, J. (10). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XVIII. *Eponides toulmini* (Brotzen). *Natuurh. Maandbl.* **45** : 29-33, fig.

Hofker, J. (11). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XIX. Planctonic foraminifera of the chalk tuff of Maestricht and environments. *Natuurh. Maandbl.* **45** : 51-57, figs.

Hofker, J. (12). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XX. The development of *Coleites reticulosus* (Plummer). *Natuurh. Maandbl.* **45** : 75-78, figs.

Hofker, J. (13). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XXI. The species of the genera *Gavelinella* and *Gavelinopsis* in the Cretaceous above the Hervian in Germany, Holland and Belgium, and the increase in the diameter of the pores as indication of the stratigraphic levels, etc. *Natuurh. Maandbl.* **45** : 99-110, figs.

Hofker, J. (14). Foraminifera from the Cretaceous of Southern Limburg, Netherlands. XXII. The development of *Eponides beisseli* Schijfsma. *Natuurh. Maandbl.* **45** : 131-132, figs.

Hofmann, F. Zur Stratigraphie und Tektonik des St. gallisch-thurgauischen Miozäns (Obere Süßwassermolasse) und zur Bodensee-geologie. [Foraminifera]. Bd. St. Gallische Naturwiss. Ges. **74** 1952 : 1-101.

Hogg, J. F. *see* Wu, C.

Hollander, W. F. *see* Becker, E. R.

Holley, E. C. *see* Lynch, J. E.

Holter, H. Enzymatic studies on mitochondria of amoebae. *Publ. Un. int. Sci. biol. (B)* No. 21 : 71-76.

Holter, H. & Marshall, J. M. jr. Studies on pinocytosis in the amoeba *Chaos chaos* dedicated to F. Baltzer

on the occasion of his seventieth birthday. C.R. Lab. Carlsberg Chim. **29** 1954 : 7-26, figs.

Holter, H. *see* Andresen, N.

Holter, H. *see* Chapman-Andresen, C.

Holz, G. G. Protein and the growth of hymenostome ciliates. *J. Protozool.* **3** Suppl. : 5.

Holz, G. G. & Corliss, J. O. *Tetrahymena setifera* n. sp., a member of the genus *Tetrahymena* with a caudal cilium. *J. Protozool.* **3** : 112-118, figs.

Honess, R. F. & Winter, K. B. Diseases of wildlife in Wyoming (including protozoa). *Bull. Wyoming Fish Comm.* No. 9, pp. 279.

Hoogenraad, H. R. & Groot, A. A. de. Rhizopoden iut het mos van de trilvenen in Het Hol bij Kortenhoef. Kortenhoef, Amsterdam **1955** : 91-98, figs.

Horiguchi, M. *see* Morikawa, R.

Hornibrook, N. de B. News-New Zealand. *Micropaleontology* **2** : 411.

Horton-Smith, C. & Long, P. L. Studies in histomoniasis. I. The infection of chickens (*Gallus gallus*) with histomonads suspensions. *Parasitology* **46** : 79-90.

Horváth, I. Die protozoenfauna des virusinfizierten und virusfreien Szegediner paprikas. *Acta Biol., Szeged.* **2** : 193-198.

Horváth, J. Beiträge zur Kenntnis einiger neuer bodenciliaten. *Arch. Protistenk.* **101** : 269-276, figs.

Hosoya, S. Trichomycin. Ein neues Antibiotikum gegen krankheitsverursachende Bilze und Protozoen. *Umschau* **55** 1955 : 42-43.

Hovasse, R. *Arnoldia antiqua*, gen. nov., sp. nov., foraminifère probable du Précambrien de la Côte d'Ivoire. C.R. Acad. Sci. Paris **242** : 2582-2584, figs.

Hudson, R. G. S. A new lower Cretaceous stromatoporoid *Bekhmeia wetzeli* from northern Iraq. [Foraminifera.] *J. Paleont.* **28** 1954 : 47-51, figs.

Huff, C. G. Exoerythrocytic stages of *Plasmodium nucleophilum*. J. Parasit. **42** : 612.

Hughes, F. W. & Tatum, A. L. (1). Effects of hypoxia and intercurrent infections on infections by *Plasmodium berghei* in rats. J. inf. Dis. **99** : 38-43, figs.

Hughes, F. W. & Tatum, A. C. (2). Effects of hypoxia on rats infected by *Trypanosoma lewisi*. J. inf. Dis. **98** : 127-132, figs.

Hull, R. W. Reproductive potential of isolated *Podophrya collini*. J. Protozool. **3** Suppl. : 11.

Hull, R. W. & Camin, J. H. Blood parasites in reptiles. J. Parasit. **42** Suppl. : 36.

Hulland, T. J. Toxoplasmosis in Canada. J. Amer. vet. med. Ass. **128** : 74-79, figs.

Hungate, R. E. *see* Gutierrez, J.

Hunt, D. W. *see* Atchley, F. O.

Hunter, F. R. & Cosgrove, W. B. Aerobic metabolism of *Crithidia fasciculata*. J. Protozool. **3** Suppl. : 12.

Hunter, G. W. III. *see* Ritchie, L. S.

Hurley, M. P. *see* Nardone, R. M.

Husmann, S. Untersuchungen über die Grundwasserfauna zwischen Harz und Weser. Arch. Hydrobiol. **52** : 1-184, figs.

Hutner, S. H., Aaronson, S., Baker, H. & Nathan, H. A. New problems with B_{12} metabolism in protozoa. J. Protozool. **3** Suppl. : 5.

Hutner, S. H., Bach, M. K. & Ross, G. I. M. A sugar-containing basal medium for vitamin B_{12} -assay with *Euglena*; application to body fluids. J. Protozool. **3** : 101-112, figs.

Hutner, S. H. *see* Aaronson, S.

Hutner, S. H. *see* Nathan, H. A.

Hynes, J. *see* Odum, H. T.

Ichikawa, T. *see* Minato, M.

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Igō, H. Notes on the Osobudani conglomerate and some Lower Permian Fusulinids contained in its limestone pebbles. Part II. (On a new type of wall structure of Fusulinids). Sci. Rep. Tokyo Kyoika Daig **4C** : 293-302, fig.

Igō, H. *see* Fujimoto, H.

Ijiri, S., Ogawa, K., Takasawa, M. & Wada, M. Tertiary system in the Chichibu Basin. [Foraminifera.] Bull. Nat. Sci. Mus. **28** 1950 : 1-67. [In Japanese.]

Ikeda, T. Group substance decomposing enzyme from *Trichomonas foetus*. Gunma J. med. Sci. **4** 1955 : 279-284, figs.

Illing, L. V. Bahaman calcareous sands. [Foraminifera.] Bull. amer. Ass. Petrol. Geol. **38** 1954 : 1-95, figs.

Ingerson, E. *see* Ladd, H. S.

Inoki, S., Osaki, H. & Nakabayashi, T. Studies on the immunological variation in *Trypanosoma gambiense* II. Verifications of the new variation system by Ehrlich's and *in vitro* methods. Med. J. Osaka Univ. **7** : 165-173, fig.

Ivens, V. *see* Levine, N. D.

Iwasa, S. [Biostratigraphy of the Isizawagawa Group in Honjō and its environs, Akita Prefecture.] J. geol. Soc. Japan **61** 1955 : 1-18, fig. [English abstract.]

Iwasa, S. & Kikuchi, Y. Foraminifera from the Sugota formation, Akita Prefecture, Japan. Trans. palaeont. Soc. Japan N.S. **16** 1954 : 183-194, figs.

Jacobs, L. Propagation, morphology, and biology of *Toxoplasma*. Ann. N.Y. Acad. Sci. **64** : 154-179, figs.

Jaffé, F. La position géologique des ophiolites dans les Préalpes. [Foraminifera]. C.R. Acad. Sci. Paris **238** 1954 : 1246-1247.

Jahn, T. L. *see* Bernstein, E. O.

Jahn, T. L. *see* Gross, J. A.

Jahn, T. L. *see* Wirschafter, S.

Jakowska, S. *see* Nigrelli, R. F.

Jakowska, S. & Nigrelli, R. F. *Babesiosoma* gen. nov. and other babesioids in erythrocytes of cold-blooded vertebrates. *Ann. N.Y. Acad. Sci.* **64** : 112-127, figs.

James, T. W. *see* Gross, J. A.

James, J. W. *see* Prescott, D. M.

Jankow, L. *see* Simitch, T.

Jansen, B. C. & Neitz, W. O. The experimental transmission of *Theileria ovis* by *Rhipicephallus evertsi*. *Onderstepoort. J. vet. Res.* **27** : 3-6.

Jansen, B. C. *see* Neitz, W. O.

Jara, F. de la. Accion del daraprim y la primaquina, asociados, sobre infecciones experimentales con *P. gallinaceum*. *Acta zool. Mexicana* **1** 1955 : 1-12.

Jarny, D. *see* Caron, J.

Jeffery, G. M. (1). Human coccidiosis in South Carolina. *J. Parasit.* **42** : 491-495.

Jeffery, G. M. (2). Intestinal parasites in a Georgia mental hospital. *J. Parasit.* **42** : 553-555.

Jeffery, G. M. (3). Relapses with Chesson strain *Plasmodium vivax* following treatment with chloroquine. *Amer. J. trop. Med. Hyg.* **5** : 1-13, figs.

Jeffery, G. M., Young, M. D. & Eyles, D. E. The treatment of *Plasmodium falciparum* infection with chloroquine, with a note on infectivity to mosquitoes of primaquine- and pyrimethamine-treated cases. *Amer. J. Hyg.* **64** : 1-11.

Jeffries, W. B. Studies on excystment in the hypotrichous ciliate *Pleurotricha lanceolata*. *J. Protozool.* **3** : 136-144.

Jellison, W. L. On the nomenclature of *Besnoitia besnoiti*, a protozoan parasite. *Ann. N.Y. Acad. Sci.* **64** : 268-270.

Jellison, W. L., Fullerton, W. J. & Parker, H. Transmission of the protozoan *Besnoitia jellisoni* by ingestion. *Ann. N.Y. Acad. Sci.* **64** : 271-274.

Jenkins, A. R. & Grainge, E. B. The oxidative metabolism of African pathogenic trypanosomes. I. Observations on *Trypanosoma rhodesiense*

maintained by sub-inoculation and cyclical tsetse-fly transmission. *Trans. R. Soc. trop. Med. Hyg.* **50** : 481-484.

Jepps, M. W. The protozoa, Sarcodina. London and Edinburgh (Oliver and Boyd). 183 pp., figs.

Jessen, R. J. *see* Becker, E. R.

Johnson, H. Memorial to Inno-kenty Pavlovich Tolmachoff (1872-1950). *Proc. Geol. Soc. Amer. Ann. Rept.* 1952 [1953] : 147-154, fig.

Johnson, L. P. Observations on *Euglena fracta* sp. nov., with special reference to the locomotive apparatus. *Trans. Amer. micr. Soc.* **75** : 271-281, figs.

Johnson, W. H. Nutrition of protozoa. *Ann. Rev. Microbiol.* **10** : 193-212.

Johnson, W. H. & Miller, C. A. (1). Nutritional requirements of *Paramecium multimicronucleatum*. *J. Protozool.* **3** Suppl. : 5.

Johnson, W. H. & Miller, C. A. (2). A further analysis of the nutrition of *Paramecium*. *J. Protozool.* **3** : 221-226.

Jones, E. E. The ciliate *Dileptus beersi*, n. sp. *J. Elisha Mitchell sci. Soc.* **22** : 67-72, figs.

Jones, F. E. *see* Eyles, D. E.

Jong, C. de & Kraan, H. An autochthonous case of malaria near Eindhoven. *Docum. Med. geogr. trop.* **8** : 70-74.

Jonsson, S. & Nakamura, M. Amebocidal action of some new synthetic pyrimidine amides. *J. Protozool.* **3** Suppl. : 2.

Jorg, E. Mikropaläontologische Untersuchungen in der Miozänen Molasse des Bodenseegebietes. *Mitt. Badischen Geol. Landesanst.* **1949** [1950] : 33-36.

Jörg, M. E. Limite sud de la dispersion geographica de *Triatoma infestans* y su infestacion por *Trypanosoma cruzi* en Argentina. *Folia Clin. Biol. S. Paulo* **23** 1955 : 115-132, figs.

- Josephson, E. S. *see* Taylor, D. J.
- Joyner, L. P. & Bennett, G. H. Observations on the viability of *Trichomonas foetus* during the process of freezing to -79°C . and thawing in the presence of glycerol. *J. Hyg.* **54** : 335-341.
- Joyner, L. P. & Kendall, S. B. The mode of action of a mixture of pyrimethamine and sulphadimidine on *Eimeria tenella*. *Brit. J. Pharmacol.* **11** : 454.
- Joyner, L. P. *see* Kendall, S. B.
- Judd, J. M. *see* Edwards, E. E.
- Jung, R. C. *see* Beaver, P. C.
- Kabler, P. W. *see* Chang, S. L.
- Kahler, F. (1). Eocängörolle in Jungtertiär und Diluvium Karntens. [Foraminifera.] *Verh. Geol. Bundesanst. Wien* **1949** [1951] : 173-180.
- Kahler, F. (2). Entwicklungs-räume und Wanderwege der Fusuliniden am eurasiatischen Kontinent. *Geologie* **4** 1955 : 178-188, figs.
- Kakimi, T. *see* Minato, M.
- Kamptner, E. Das kolk skelett von *Coccolithus huxleyi* (Lohm.) Kpt. und *Gephyrocapsa oceanica* Kpt. (Coccolithineae). *Arch. Protistenk.* **101** : 171-203, figs.
- Kane, J. North Atlantic planktonic foraminifera as Pleistocene temperature-indicators. *Micropaleontology* **2** : 287-293, figs.
- Kaneda, M. Intracellular patterns of oxidation and reduction shown by indicators in *Chlamydomonas* (Ciliate). *Zool. Mag. Tokyo* **65** : 340-346.
- Kaneko, M. (1). [On rice powder in the cultivation of *Entamoeba gingivalis*.] *Nisshin Igaku* **43** : 103-106. [Japanese with English summary.]
- Kaneko, M. (2). [Ingestion of red blood cells by *Entamoeba gingivalis* in culture.] *Nisshin Igaku* **43** : 229-233. [Japanese with English summary.]
- Kaneko, M. (3). [Experimental infection of animals with *Entamoeba gingivalis*.] *Nisshin Igaku* **43** : 269-275. [Japanese with English summary.]
- Kaneko, M. (4). [Investigations on amylolytic activity of several parasitic and free-living amoebae.] *Kiseichugaku Zasshi* **5** : 88-91, figs. [Japanese with English summary.]
- Kaneko, M. (5). [Investigations on the proteolytic activity of parasitic and free-living amoebae.] *Kiseichugaku Zasshi* **5** : 92-95, figs. [Japanese with English summary.]
- Kanmera, K. (1). Fusulinids from the Yazamadake limestone of the Hikawa Valley, Kumamoto Prefecture, Kyushu, Japan. Part 1. Fusulinids of the Upper Middle Carboniferous. *Jap. J. Geol. Geogr.* **25** 1954 : 117-144, figs.
- Kanmera, K. (2). Fusulinids from the Upper Permian Kuma formation, Southern Kyushu, Japan—with special reference to the fusulinid zone in the Upper Permian of Japan. *Mem. Fac. Sci. Kyushu Univ. D.4* 1954 : 1-38, figs.
- Kantor, J. *see* Kantorova, V.
- Kantor, S. The infraciliature in the Ophryoscolecidae and its morphogenetic and phylogenetic significance. *J. Protozool.* **3** Suppl. : 2.
- Kantor, S. *see* Levine, N. D.
- Kantorova, V. & Kantor, J. Prispevek k poznaniu markazitovéholožiska pri tepličanoch severne od Rošič. [Foraminifera.] *Geol. šbornik. Slovensk. Akad.* **6** 1955 : 81-103, fig. [German summary.]
- Kaplan, J. R. *see* Baas-Becking, L. G. M.
- Kaptarinko - Chernousova, O. K. [Study of the systematic formation of species in Jurassic Epistominids.] *Micropal. Stud. Akad. Nauk SSSR. Otdel. geol.-geog.* **1** : 49-61, figs. [In Russian.]
- Karamchandani, S. J. Mortality of carp fry due to infection by a parasitic ciliate. *Curr. Sci.* **25** : 126-127.
- Karandikar, K. R. & Rodgi, S. G. (1). Ciliates and flagellates from the millipedes of Bombay-Karnatak. *J. Univ. Bombay N.S.* **24B** : 1-11, figs.

Karandikar, K. R. & Rodgi, S.S. (2). Gregarines from the millipedes of Bombay-Karnatak. J. Univ. Bombay **24B** : 11-37, figs.

Kasimova, G. K., Kutznetzova, Z. V. & Mikheeva, Z. F. [Microfauna of the Jurassic deposits in the cross-section of Ulluchait (Central Dagestan).] C.R. Acad. Sci. Azerbaid. **12** : 9-14. [In Russian.]

Kasimova, N. [On the stratigraphy of the Middle Jurassic in north-western Azerbaidzhan.] [Foraminifera.] C.R. Acad. Sci. Azerbaid. **11** 1955 : 33-37. [In Russian.]

Kašták, V. [Vorläufige Mitteilung über das Auftreten von Fischparasiten in Gewässern der Slowakei]. Biológia, Bratislava **11** : 624-635. [German summary.]

Kean, B. H. *see* Weld, J. T.

Kellough, G. R. Distribution of foraminifera around a submerged hill in the Gulf of Mexico. Trans. Gulf Assoc. geol. Soc. Texas **6** : 205-216, figs.

Kenawy, A. *see* Said, R.

Kendall, S. B. & Joyner, L. P. The synergism between pyrimethamine and sulphadimethylpyrimidine in the control of *Eimeria tenella*. J. comp. Path. **66** : 145-150, fig.

Kendall, S. B. *see* Joyner, L. P.

Kent, J. F. *see* Chaffee, E. F.

Kerner, M. W. *see* Loran, M. R.

Kerr, W. R. & Robertson, M. Partial immunological paralysis to *Trichomonas foetus* antigen in calves. J. Hyg. **54** : 415-418.

Kesling, R. V. News—East-Central United States. Micropaleontology **2** : 310-312.

Kesling, R. V. *see* Copeland, M. J.

Khalilov, D. M. & Tairov, Ch. A. [Microfauna of the Turonian deposits in North-eastern Azerbaidzhan]. C.R. Acad. Sci. Azerbaid. **10** 1954 : 265-270, figs. [In Russian.]

Kicinski, F. M. Note on the occurrence of some Tertiary larger foraminifera on Bougainville Isl. [Solomon Islands]. Bur. Min. Res. Australia. Rept. **25** : 76-77.

Kicinski, F. M. & Belford, D. J. Note on the Tertiary succession and foraminifera of Manus Island. Rept. Bur. Min. Res. Australia **25** : 71-75.

Kidder, G. W. & Dewey, V. C. Inhibition of *Tetrahymena* by a new tryptophan analog. Biochem. biophys. Acta **17** 1955 : 288.

Kikuchi, Y. *see* Iwasa, S.

Killick-Kendrick, R. *see* Ormerod, W. E.

Kimball, R. F. The role of oxygen in the production of various effects of X-rays on *Paramecium aurelia*. Caryologia **6** Suppl. Atti IX Congr. Internat. Genet. (2) 1954 : 1099-1100.

Kimball, R. F. & Gaither, N. Behaviour of nuclei at conjugation in *Paramecium aurelia*. II. The effects of X-rays on diploid and haploid clones, with a discussion of dominant lethals. Genetics **41** : 715-728, figs.

Kimball, R. F. *see* Bridgman, J.

Kimura, S. *see* Minato, M.

Kireeva, G. D. & Nesterenko, L. P. [On the occurrence and age of shingle in the sandy conglomerates of the Donetz Basin.] [Foraminifera.] Bull. Acad. Sci. U.R.S.S. geol. **3** : 104-107. [In Russian.]

Kirk, R. (1). African leishmaniasis. Central Afr. J. Med. **2** : 199-203.

Kirk, R. (2). Studies in leishmaniasis in the Anglo-Egyptian Sudan. XII. Attempts to find a reservoir host. Trans. R. Soc. trop. Med. Hyg. **50** : 169-177.

Kitching, J. A. Effects of high hydrostatic pressure on a feeding suctorian. Protoplasma **46** : 475-480, figs.

Kitching, J. A. *see* Borgers, J. A.

Klasz, Von I. de & Knipscheer, H. C. G. Die Foraminiferenart *Reusella szajnochae* (Gryzbowski) : ihre systematische Stellung und regionalstratigraphische Verbreitung. Geol. Jb. **69** 1955 : 599-610, fig.

Klein, B. M. Form und Formänderung bei ciliaten Infusorien. Mikrokosmos **45** : 203-208, figs.

Klultz, J. A. *see* Mackie, T. T.

Knipscheer, H. C. G. *see* Klasz, Von I de.

Kochansky-Devidé, V. & Ramovs, A. Die Neoschwagerinenschichten und ihre Fusulinidenfauna bei Bohingska Bela und Bled (Julische Alpen, Slovenien, N.W. Jugoslawien). Razpr. Akad. Ljubljana **3** 1955 : 359-424, figs.

Kopac, M. J. *see* Heller, I. M.

Kopeliovich, A. V. & Eventov, Y. S. [Permian deposits of Astrakhan.] [Foraminifera.] C.R. Acad. Sci. U.R.S.S. **106** : 320-323. [In Russian.]

Koppisch, E. *see* Areán, V. M.

Kormas, J. & Kormas, K. [New investigations on the sexual dimorphism of the *Prodiscophrya*.] Acta biol. Acad. Sci. hung. **7** : 109-125, figs. [English summary : 124-5.]

Kormas, K. *see* Kormas, J.

Kovary, J. Thecamoebians (Testacéas) des sédiments du Pannonien inférieur de la Hongrie. Bull. Hung. geol. Soc. **86** : 266-273, figs.

Kozar, Z. (1). [*Entamoeba moshkovski* as a suitable experimental object.] Wiad. Parazyt. **2** : 33-36. [English summary.]

Kozar, Z. (2). [The problems of medical parasitology in the Georgian Republic of the Soviet Union.] Wiad. Parazyt. **2** : 27-29. [English summary.]

Kozar, Z. (3). [Clinical course and diagnosis of Toxoplasmosis.] In : Toxoplasmosis, Moscow : 19-95. [In Russian.]

Kozar, Z. (4). [Übersicht anderer in Polen aktueller probleme der medizinischen parasitologie.] Wiad. Parazyt. **1** 1955 : 83-103. [German summary.]

Kozloff, E. N. (1). Experimental infection of the gray garden slug, *Deroceras reticulatum* (Müller), by the holotrichous ciliate *Tetrahymena pyriformis* (Ehrenberg). J. Protozool. **3** : 17-19.

Kozloff, E. N. (2). A comparison of the parasitic phase of *Tetrahymena limacis* (Warren) with clones in culture, with particular reference to variability in the number of primary ciliary meridians. J. Protozool. **3** : 20-28, figs.

Kozloff, E. N. (3). *Tetrahymena limacis* from the terrestrial pulmonate gastropods *Monadenia fidelis* and *Prophysaon andersoni*. J. Protozool. **3** : 204-208.

Koraan, H. *see* Jong, C. de.

Kramptner, E. Das Kalkskelett von *Coccolithus huxleyi* (Lohm.) Kpt. und *Gephyrocapsa oceanica* Kpt. (Coccolithineae). Arch. Protistenk. **101** : 171-203, fig.

Krascheninnikow, S. Some new data concerning the morphology and division of *Balantidium coli* and *Balantidium caviae* (?). J. Protozool. **3** Suppl. : 2.

Krascheninnikov, V. A. [Microstructure of the wall in some Kainozoic foraminifera and the methods of study in polarised light.] Micropal. Stud. Akad. Nauk SSSR. Otdel. geol.-geog. **1** : 37-48, figs. [In Russian.]

Krau, L. *see* Oliveira, L. de.

Kremp, G. *see* Hiltermann, H.

Kruger, F. Über die Microsporidien-Infektion von *Campanella umbellaria*. Zool. Anz. **156** : 125-129, figs.

Krümmler, H. Entökie einer Amöben-species im menschlichen Auge. Arch. Hyg. Berl. **140** : 253-263, fig. [English, French and German summaries.]

Krupp, I. M. Amebic invasion of the liver of guinea pigs infected with the larvae of a nematode, *Toxocara canis*. Exper. Parasit. **5** : 421-426.

Kuenen, Ph. H. *see* Natland, M. L.

Kufferath, H. (1). Compléments à la liste des publications de Walter Conrad. Protistologie et Algologie. Bull. Inst. Sci. nat. Belg. **31** 1955 : 81.

Kufferath, H. (2). Organismes trouvés dans les Carottes de Sondages et les Vases prélevées au fond de lac Tanganyika. Expl. Hydro. Lac Tangan. IV : 1-74, figs.

Kufferath, H. (3). Algues e protistes du fleuve Congo dans le Bas-Congo et de son estuaire. Première et deuxième partie. Rés. sci. Expéd. océanogr. Belge Eaux Côtières Afr. Atlant. Sud. 5 : 1-75, figs.

Kun, E., Bradin, J. L. Jr. & Dechary, J. M. Correlation between $\text{CO}_2 + \text{H}_2\text{S}$ production by *Endamoeba histolytica*. Biochim. biophys. Acta 19 : 153-159.

Kunert, H. & Schmidtke, L. Zur Prage der dauerausscheidung bei Toxoplasmose. Z. Tropenmed. u. Parasit. 7 : 87-92.

Kuntz, R. E. *see* Lawless, D. K.

Küpper, K. (1). Stratigraphische verbreitung der Foraminiferen in einem profil aus dem Becken von Gosau (Grenzbereich Salzburg-Oberösterreich). Geol. Jahrb. Wien 99 : 273-320, figs.

Küpper, K. (2). Upper Cretaceous pelagic foraminifera from the "Antelope Shale", Glenn and Colusa Counties, California. Contr. Cush. Fdn. Foram. Res. 7 : 40-47, figs.

Kuwano, Y. Invertebrate fauna of the intertidal zone of the Tokara Islands. XII. Foraminifera. Publ. Seto mar. biol. Lab. 5 : 273-282, figs.

Kuznetzova, Z. V. *see* Kasimova, G. K.

Kuźnicki, L. *see* Grebecki, A.

Laarman, J. J. Transmission of experimental toxoplasmosis by *Stomoxys calcitrans*. Docum. Med. geogr. trop. 8 : 293-298.

Lackey, J. B. *see* Odum, H. T.

Ladd, H. S. Thomas Wayland Vaughan. J. Wash. Acad. Sci. 42 1952 : 207-208.

Ladd, H. S., Ingerson, E., Townsend, R. C., Russell, M., & Stephenson, H. K. Drilling on Eniwetok Atoll, Marshall Islands. [Foraminifera]. Bull. Amer. Ass. Petrol. Geol. 37 1953 : 2257-2280.

Laffoon, J. L. A search for the natural vectors of avian malaria in Iowa, with notes on other mosquito parasites. Proc. Iowa Acad. Sci. 58 1951 : 497-499.

Laiming, B., Thalmann, H. E. & Tunell, G. Memorial to Paul Pavel Goudkoff. (1880-1955). Proc. Geol. Soc. Amer. Ann. Rept. 1955 [1956] : 127-132.

Laing, A. B. G. Proguanil resistance—Extension to the gametocytes of *Plasmodium falciparum*. Trans. R. Soc. trop. Med. Hyg. 50 : 496-504, figs.

Lainson, R. Toxoplasmosis in England. III. *Toxoplasma* in dogs : the incidence of complement-fixing antibodies among dogs in London. Ann. trop. Med. Parasit. 50 : 172-186.

Lainson, R. *see* Garnham, P. C. C.

Laird, M. Intestinal flagellates from some New Zealand insects. Trans. roy. Soc. N.Z. 84 : 297-308, figs.

Lamborn, W. A. The haematophagous fly as a possible vector of *Leishmania*. Bull. endemic Dis. Baghdad 1 1955 : 239-249.

Lambrecht, F. L. *see* Chardome, M.

Lamy, L. (1). Phénomènes de phagotrophie anormale chez une amibe parasite. C.R. Soc. Biol. Paris 150 : 96-100, figs.

Lamy, L. (2). Mise au point concernant la recherche et l'identification des amibes dysentériques dans les produits pathologique. Bull. Soc. Path. exot. 49 : 525-532.

Lamy, L. & Benex, J. Modification de technique de coproculture pour helminthes et protozoaires. Bull. Soc. Path. exot. 49 : 43-44, fig.

Lamy, L. & Molinari, V. (1). Etude de l'action *in vivo* de l'acétate de cortisone sur la phagocytose des amibes parasites. Comparaison avec les macrophages. C.R. Soc. Biol. Paris 150 : 936-938.

Lamy, L. & Molinari, V. (2). Étude de l'action *in vitro*, de l'acétate de cortisone sur la phagocytose des amibes parasites. C.R. Acad. Sci. Paris 242 : 2062-2064.

Landau, J. V., Zimmermann, A. M. & Marsland, D. A. Temperature-pressure experiments on *Amoeba proteus*; plasmagel structure in relation to form and movement. *J. cell. comp. Physiol.* **44** 1954 : 211-232, figs.

Lange, F. W. News-Brazil. *Micropaleontology* **2** : 194.

Langiullon, J., Mouchet, J., Rivola, E. & Rateau, J. Contribution à l'étude de l'épidémiologie du paludisme dans la région forestière du Cameroun. Paludometrie, especes plasmodiales, anophalisme, transmission. *Méd. trop.* **16** : 347-378, maps.

Lapage, G. (1). Veterinary parasitology. London and Edinburgh (Oliver and Boyd), 964 pp., figs.

Lapage, G. (2). The parasite's point of view. *Sci. News* No. 41 : 87-108, figs.

Lapierre, J. *see* Galliard, H.

Lapina, N. N. *see* Belov, N. A.

Larcher, C. *see* Tintant, H.

Lawless, D. K., Kuntz, R. E. & Strome, C. P. Intestinal parasites in an Egyptian village of the Nile Valley with emphasis on the Protozoa. *Amer. J. trop. Med. Hyg.* **5** : 1010-1014.

Lederer, E. *see* Barbier, M.

Lee, J. W. (1). The effect of pH on the velocity of ciliary movement in *Paramecium*. *J. Protozool.* **3** Suppl. : 9.

Lee, J. W. (2). Paper chromatographic analysis of certain patterns in *Paramecium*. *Trans. Amer. micr. Soc.* **75** : 228-234, figs.

Leentvaar, P. De samenstelling van het plankton van de dinkel en enige zijbeken in 1956. *Levende Nat.* **59** : 233-238, figs.

Le Gac, P., Giroud, P. & Roger, F. Hepatozoon chez *Epmys rattus frugivorus* du Haut-Oubangui (A.E.F.). *Bull. Soc. Path. exot.* **49** : 39-40.

Lehmann, F. E., Manni, E. & Bairati, A. Der Feinbau von Plasmalemma und kontraktile Vakuole bei *Amoeba proteus* in Schnitt- und Fragmentpräparaten. *Rev. suisse Zool.* **63** : 246-255, figs.

Lehmann, F. E. *see* Bairati, A.

Leidl, W. *see* Hammond, D. M.

Lepsi, I. Modificarea faunei de protozoare tericicole, prin irigatii agricole. *Bul. sti. Acad. Repub. rom. Sect. Biol.* **3** 1951 : 513-523, figs. [French summary.]

Lesser, E. Parasitism in Korea. *J. Parasit.* **42** : 515.

Levaditi, J. *see* Fromentin, H.

Levin, H. L. *see* Nathan, H. A.

Levine, N. D. Society of Protozoologists. *Science* **121** 1955 : 123.

Levine, N. D. & Hanson, H. C. Blood parasites of the Canada goose, *Branta canadensis interior*. *J. Wildlife Manag.* **17** 1953 : 185-196, figs.

Levine, N. D. & Ivens, V. Coccidia of Arizona rodents. *J. Protozool.* **3** Suppl. : 1.

Levine, N. D., Marquardt, W. C. & Beamer, P. D. Failure of bacteria-free *Trichomonas* to cause atrophic rhinitis in young pigs. *J. Amer. vet. med. Ass.* **125** 1954 : 61-63.

Levine, N. D., Watrach, A. M., Kantor, S. & Hardenbrook, H. J. A case of bovine trypanosomiasis due to *Trypanosoma theileri* in Illinois. *J. Parasit.* **42** : 553.

Librovich, L. S. Faunistic subdivisions and correlation of the Lower Carboniferous of the U.S.S.R. (abstract). [Foraminifera.] 18th Int. geol. Congr. Gt. Brit. 1948. *Proc. Sect. J. Rept.* **10** 1952 : 43.

Lieb, F., Exner, H. & Anschau, M. Über die Beziehung der chemischen Analyse zu den vorgefundenen tierischen und pflanzlichen Mikroorganismen in Trink- und Nutzwässern. *Arch. Hyg. Berl.* **140** : 466-482.

Liener, I. E. *see* Viswanatha, T.

Lilly, D. M. & Cevallos, W. H. Factors influencing growth in Protozoa. II. Chemical supplements promoting growth in carnivorous ciliates. *Trans. N.Y. Acad. Sci.* **18** : 531-539.

Lilly, D. M., Cevallos, W. H. & Lucchesi, B. R. The use of *Tetrahymena* inactivated by ultraviolet radiation as food for carnivorous protozoa. *J. Protozool.* **3** Suppl. : 6.

Lilly, D. M. & Henry, S. M. Supplementary factors in the nutrition of *Euplotes*. *J. Protozool.* **3** : 200-203.

Lilly, D. M. *see* Sterbenz, F. J.

Lingen, M. I. van der & Elsdon-Dew, R. Some aspects of the biochemistry of *Entamoeba histolytica*. *S. Afr. J. Sci.* **52** : 138-140.

Linhartova, A. Experimentelle pneumocystose bei ratten. *Zbl. Bakt.* **167** : 178-186, figs.

Lipina, O. A. [Foraminifera of the Tournaisian layer and the upper part of the Devonian of the Volga-Ural district and the western slope of the central Ural.] *Trav. Inst. geol. SSSR.* **163** 1955 : 1-96, figs.

Lips, M. & Rodhain, J. Quelques hématozoaires de petits mammifères du Haut-Katanga. *Ann. Parasit. hum. comp.* **31** : 481-488, figs.

Liszka, S. [Foraminifera of the Lower Senonian in the vicinity of Cracow.] *Ann. Soc. géol. Pologne* **23** 1955 : 165-190, figs. [In Polish, Russian and English.]

Litman, R. *see* Wagtendonk, W. J. van.

Livingstone, F. B. *see* Miller, M. J.

Loeblich, A. R. jr. (1). Foraminiferal determinations in Miller, D. J. ; Late Cenozoic marine glacial sediments and marine terraces of Middleton Island, Alaska. *J. Geol.* **61** 1953 : 17-40, figs.

Loeblich, A. R. jr. (2). News-Eastern United States. *Micropaleontology* **3** : 98-101.

Loeblich, A. R. jr. (3). The types of Lamarck's genera of foraminifera as selected by J. G. Children in 1823. *Micropaleontology* **2** : 303-304.

Loeblich, A. R. jr. & Tappan, H. *Chiloguembelina*, a new Tertiary genus of the Heterohelidae (Foraminifera). *J. Wash. Acad. Sci.* **46** : 340, fig.

Lom, J. (1). Beiträge zur Kenntnis der parasitischen Ciliaten aus Evertebraten I. *Arch. Protistenk.* **101** : 277-288, figs.

Lom, J. (2). Beiträge zur Kenntnis der parasitischen Ciliaten aus Evertebraten. II. *Jirovecella hegemonis* n.g. n. sp. *Arch. Protistenk.* **102** : 229-240, figs.

Lom, J. (3). Příspěvek k posnání výskytu cizopasných nálevníků v našich obojživelnících. *Čas. nár. Mus. Odd. Přírod.* No. 125 : 68-72.

Long, P. L. *see* Horton-Smith, C.

Loran, M. R., Kerner, M. W. & Anderson, H. H. Dependence of *Entamoeba histolytica* upon associated streptobacillus for metabolism of glucose. *Exp. Cell Res.* **10** : 241-245.

Lorenzo, A. P. *see* Matilla, V.

Lösch, F. Massenhafte Entwicklung von Amöben im Dickdarm. *Arch. path. Anat.* **65** 1875 : 196-211, figs. [Russian translation : *see* D. P. Svanidze.]

Lowenstam, H. A. *see* Epstein, S.

Lucchesi, B. R. *see* Lilly, D. M.

Luczkowska, E. (1). Z zagadnień stratygrafii micropaleontologicznej w Polskim Miocenie. *Przegląd Geol.* **3** 1955 : 104-109, figs.

Luczkowska, E. (2). [Tortonian foraminifera from the Chodenice and Grabowiec beds in the vicinity of Bochnia]. *Ann. Soc. géol. Pologne* **23** 1955 : 77-156, figs. [In Polish, Russian & English.]

Ludbrook, N. H. Microfossils from Pleistocene to recent deposits, Lake Eyre, South Australia. [Protozoa]. *Trans. roy. Soc. S. Aust.* **79** : 37-45, fig.

Ludvik, J. Vergleichende elektronenoptische Untersuchungen an *Toxoplasma gondii* und *Sarcocystis tenella*. *Zbl. Bakt. Abt. I. Orig.* **166** : 60-65, pls.

Lunde, M. N. *see* Mackie, T. T.

Lux, R. E. The chemotherapy of *Eimeria tenella*. I. Diaminopyrimidines and dihydrotriazines. *Antibiot. & Chemother.* **4** 1954 : 971-977.

Lynch, J. E., Bamforth, B. J. & Goeckeritz, D. The laboratory evaluation of antiamebic activity. The comparative results obtained by the use of in vitro and in vivo methods. *Antibiot. & Chemother.* **6** : 330-336.

Lynch, J. E., English, A. R., Morrison, J. & Maven, I. Protective action of anisomycin in mice infected with *Trichomonas foetus*. Antibiot. & Chemother. **4** 1954 : 899-904, figs.

Lynch, J. E., Holley, E. C. & Margison, J. E. Studies on the use of the mouse as a laboratory animal for the evaluation of antitrichomonal agents. Antibiot. & Chemother. **5** 1955 : 508-514.

Lynch, J. E., Halley, E. C. & Salmirs, A. M. Effect of anisomycin on the growth of *Trichomonas vaginalis*. Antibiot. & Chemother. **5** 1955 : 300-304, figs.

Lynch, V. *see* Eugene, E.

Lys, M. *Robulus incisus* n. sp., phylum caractéristique en Afrique à la limite Crétacé-Eocène. Rev. Inst. Franç. Petrole & Ann. Combust. Lyn. **6** 1951 : 91-100, fig.

Lys, M. *see* Bourdon, M.

Lysenko, M. G. *see* Myers, W. M.

Mabille, J. *see* Thomas, R.

McArthur, W. H. Observations on the enteric Protozoa of *Rana pipiens* during larval development and metamorphosis. Proc. Iowa Acad. Sci. **62** 1955 : 640-651, figs.

McCallien, W. J. & Tokay, M. Sedimentation phenomena of the Cretaceous of the Black Sea region between Zonguldak and Ereğli, Asia Minor. [Foraminifera]. 18th int. Geol. Congr. Gt. Britain 1948. Proc. Sect. M. **13** 1952 : 154-164, figs.

McCarthy, D. A. *see* Thompson, P. E.

McCashland, B. W. Adaption by *Tetrahymena pyriformis* to potassium cyanide. II. Adaption against respiratory inhibition. J. Protozool. **3** : 131-135.

McCashland, B. W. & Marsh, W. R. The effect of short and long term exposure to cyanide upon growth in *Chilomonas paramecium*. J. Protozool. **3** Suppl. : 13.

McCaul, W. E. An experimental attempt to parasitize mammals with the free-living ciliate *Tetrahymena pyriformis*. J. Protozool. **3** Suppl. : 11.

McConn, J. M. *see* Morris, J. A.

McConnachie, E. W. Modification and elimination of the bacterial flora in cultures of *Entamoeba invadens* Rodhain, 1934. Parasitology **46** : 117-129.

MacConnachie, E. W. *see* Bishop, A.

Macfadyen, W. A. Foraminifera and other microfauna from Post-glacial clays from the Middle Bure Valley, Norfolk. R.G.S. Res. Ser. **2** 1952 : 58-62.

McGhee, R. B. (1). The reproductive habits of *Plasmodium cathe-merium* in chick and duck embryos. J. Parasit. **42** Suppl. : 25.

McGhee, R. B. (2). A study of changes occurring in *Plasmodium lophurae* after three years continuous existence in mice. J. Protozool. **3** : 122, figs.

McGuire, W. C. *see* Morehouse, N. F.

McKay, F. *see* Morehouse, N. F.

McKerrow, W. S. Notes on species and subspecies in paleontology. [Protozoa]. Geol. Mag. **89** 1952 : 148-151.

Mackie, J. W. *see* Mackie, T. T.

Mackie, T. T., Mackie, J. W., Vaughn, C. M., Gleason, N. N., Greenberg, B. G., Nenninger, E. S., Lunde, M. N., Moore, L. L. A., Kluttz, J. A. & Taliaferro, M. O. (1). Intestinal parasitic infections in Forsyth County North Carolina. IV. Domestic environmental sanitation and the prevalence of *Entamoeba histolytica*. Amer. J. trop. Med. Hyg. **5** : 29-39.

Mackie, T. T., Mackie, J. W., Vaughn, C. M., Gleason, N. N., Greenberg, B. G., Nenninger, E. S., Lunde, M. N., Moore, L. L. A., Kluttz, J. A. & Taliaferro, M. O. (2). Intestinal parasitic infections in Forsyth County, North Carolina. V. Prevalences of individual parasites. Amer. J. trop. Med. Hyg. **5** 1 1956 : 40-52, figs.

McLaughlin, J. J. A. Physiology and nutritional requirements of some marine chrysomonads. J. Protozool. **3** Suppl. : 8.

McLean, J. D. jr. (1). Summary of the guide fossil foraminifera of the Atlantic coastal plain between New Jersey and Georgia—a revision. Rept. McLean Foram. Lab. **1** 1953 : 1-6.

McLean, J. D. jr. (2). Some notes on the Vincentown Formation. Rept. McLean Foram. Lab. **2** 1955 : 22-29.

McLean, J. D. jr. (3). Two new species of foraminifera from Maryland. Rept. McLean Foram. Lab. **2** 1955 : 30.

MacVicar, D. G. jr. Thermal disintegration of sedimentary rock. [Foraminifera.] Amer. J. Sci. **250** 1952 : 271-274.

Maegraith, B. G. Some physiological and pathological problems of malaria. Ann. Soc. belge Med. trop. **36** : 623-630, fig.

Maegraith, B. G. *see* Deegan, T.

Magalhães, A. E. A., Rêgo, S. F. M. & Siqueira, A. F. Resultados de um inquérito sobre enteroparasitoses em uma fazenda do município de Ribeirão Preto. Folia Clin. Biol., S. Paulo **23** 1955 : 133-148. [English summary.]

Magara, M., Yakouti, E., Senda, T. & Amino, E. The action of a new antibiotic, trichomycin, upon *Trichomonas vaginalis*, *Candida albicans* and anaerobic bacteria. Antibiot. & Chemother. **4** 1954 : 433-438, fig.

Maghraby, A. M. el & Perkins, E. J. Additions to the marine fauna of Whitstable. Ann. Mag. nat. Hist. (12) **9** : 481-496.

Magné, J. Microfaunes oligocènes dans la série "numidienne" de petite Kabylie (Algérie). Bull. Soc. Hist. nat. Afr. N. **46** 1955 : 269-274.

Magné, J. & Tempere, C. Micro-paléontologie de deux bassins néogènes algériens : Le Chelif et le Hodna. [Foraminifera.] Rés. des Comm., 19th Congr. géol. Inter. Algér. 1952 : 135.

Magné, J. *see* Ayme, A.

Magné, J. *see* Busson, G.

Magné, J. *see* Delga, M. D.

Magné, J. *see* Fallot, P.

Magraw, D. & Ramsbottom, W. H. C. A deep borehole for oil at Croxteth Park, near Liverpool. [Foraminifera.] Liverp. & Manchest. geol. Journ. **1** : 512-535.

Maher, J. C. Pennsylvanian correlations in Crowley and Pueblo counties, Colorado. [Foraminifera.] Bull. amer. Ass. Petrol. Geol. **38** 1954 : 2045-2048, figs.

Majzon, L. (1). Contributions to the stratigraphy of the Dachstein limestone. [Foraminifera.] Acta geol. hung. **2** 1953 : 243-246, figs.

Majzon, L. (2). [Paleozoic foraminifera of the Bukk mountains.] Földt. Közl. **85** 1955 : 461-465, figs. [English summary : 465.]

Malakhova, N. P. [The more important phases in the development of the Lower Carboniferous foraminifera.] C.R. Acad. Sci. U.R.S.S. **106** : 1076-1079. [In Russian.]

Malanga, C. M. *see* Cuckler, A. C.

Malatesta, A. & Torrente, A. Pliocene e Pleistocene a Caltagirone (Sicilia). [Foraminifera.] Boll. Uff. geol. Ital. **75** 1954 : 397-411, figs.

Malewitz, T. D. (1). Intestinal parasitism of some Mid-Western salamanders. Amer. midl. Nat. **55** : 434-436.

Malewitz, T. D. (2). Studies on the pathology of experimentally produced blackhead in turkeys. J. Parasit. **42** Suppl. : 23.

Malewitz, T. D. *see* Hitchcock, D. J.

Mallory, V. S. (1). California Lower Tertiary foraminiferal sequence (abstr.). Bull. Amer. Ass. Petrol. Geol. **37** 1953 : 2781.

Mallory, V. S. (2). Some lower Eocene correlations on the Pacific coast. [Foraminifera.] Bull. geol. Soc. Amer. **64** 1953 : 1520.

Malossi, A. Osservazione sulla morfologia di un parassita (la *Pneumocystis carinii*) probabile agente etiologici di una particolare pneumopatia dell'immaturato. Boll. Soc. ital. Biol. sper. **31** 1955 : 587-590, figs.

Malzahn, E. Geologie und Erdölführung der russischen Tafel und des Embagebietes. 2. Oelgeologische und stratigraphische Probleme im europäischen Teil der U.S.S.R. [Foraminifera.] Erdöl u. Kohle **5** 1952 : 438-442.

Mangin, J.-P. (1). Comparaison entre les faunes de Microforaminifères de Biron et de Biarritz (Basses-Pyrénées). C.R. Acad. Sci. Paris **242** : 795-796.

Mangin, J.-P. (2). Sur une faune de foraminifères du Kimmeridgien de Chablis (Yonne). Bull. sci. Bourgoyne **16** : 61-65, figs.

Mangin, M. (3). Étude sur les associations de microforaminifères de l'Éocène de Biarritz (Basses-Pyrénées). Bull. sci. Bourgoyne **16** : 173-186, figs.

Manni, E. (1). Ricerche sulla struttura submicroscopica dell' *Amoeba proteus*. I. Plasmalemma, nucleo. Boll. Soc. ital. Biol. sper. **32** : 113-115, figs.

Manni, E. (2). Ricerche sulla struttura submicroscopica dell' *Amoeba proteus*. II. Vacuoli, mitocondri, ioloplasma. Boll. Soc. ital. Biol. sper. **32** : 115-116, figs.

Manni, E. see Lehmann, F. E.

Manning, F. J. Schizogregarines (Protozoa : Sporozoa) infesting *Laeophloeus ferrugineus* Steph. (Coleoptera : Cucujidae). Microscope **10** 1954-1955 : 73-75, 92-99, 129-135, figs.

Manton, I. see Parke, M.

Manwell, R. D. Blood protozoa of the English Sparrow (*Passer domesticus*), with certain biological implications. J. Protozool. **3** Suppl. : 1.

Manwell, R. D. see Finlay, P.

Manwell, R. D. see Glenn, S.

Marche-Marchad, I. Présence de plancton rouge ("eaux rouges") sur les côtes du Sénégal et de la Mauritanie. Bull. Inst. franç. Afr. noire **18A** : 327-332.

Mărculescu, T. see Wasserman, L.

Marcuzzi, G. Fauna della Dolomiti. Mem. Ist. veneto Cl. Sci. mat. nat. **31** : 1-595, figs.

Margison, J. E. see Lynch, J. E.

Margolin, P. An exception to mutual exclusion of the ciliary antigens in *Paramecium aurelia*. Genetica **41** : 685-699, figs.

Marie, P. (1). Foraminifera : In G. Lecointre ; Recherches sur le Néogène et le Quaternaire de la côte atlantique du Maroc. Notes et Mém. Serv. géol. Maroc. **99** 1952 : 1-17, figs.

Marie, P. (2). In Brunn, J. H., Chevalier, J. P., & Marie, P. : Quelques formes nouvelles de Polyptères et de Foraminifères de l'Oligocène et du Miocène du N. W. de la Grèce. Bull. Soc. géol. Fr. **5** 1955 : 193-205, figs.

Marie, P. see Deleau, P.

Markell, E. K. A comparison of three staining techniques for protozoan parasites as applied to PVA-preserved fecal specimens. J. Parasit. **42** : 478.

Markell, E. K. & Núñez, M. C. Infecciones por parasitismo intestinal entre los habitantes de una finca de café y de un ejido en Chiapas, Mexico. Rev. Inst. Salubr. Enferm. trop. Méx. **16** : 43-49.

Marquardt, W. C. see Levine, N. D.

Marsh, W. R. see McCashland, B. W.

Marshall, F. H. A. Physiology of reproduction **1** ; Longmans Green, London, 3rd Edition, 1956 : xix+1-688, figs.

Marshall, J. M. jr. see Holter, H.

Marshall, N. see Odum, H. T.

Marshall, S. C. & Pillinger, R. The concentration of antigen for the complement-fixation test for toxoplasmosis. J. Clin. Path. **9** : 76-77.

Marsland, D. A. see Landau, J. V.

Martinez-Silva, R. see Mühlfordt, H.

Martinis, B. see Conato, V.

Maryon, M. see Shute, P. G.

Matecki, J. (1). [*Flabellamminopsis*. New genus of agglutinated foraminifera from the Dogger in the vicinity of Cjestochova.] *Ann. Soc. géol. Pologne* **22** 1953 : 101-122, figs. [In Polish, Russian and English].

Matecki, J. (2). [New genera of agglutinated foraminifera from the Polish Miocene.] *Ann. Soc. géol. Pologne* **22** 1953 : 497-513, figs. [In Polish, Russian and English].

Matilla, D. V. Problemática biológica y clínica de la tricomoniasis. *An. Acad. nat. Med. Madrid* **73** : 247-267.

Matilla, V., Garrido, J. A., Lorenzo, A. P. & Nafria, A. F. Contribucion al estudio de la inmunidad en el paludismo experimental por *Plasmodium berghei*. *Med. colon.* **23** 1954 : 8-11.

Matsumoto, H. (1). [Experimental infection of *Entamoeba histolytica* in guinea-pigs with special reference to the effects of the alternation of associated bacterial flora upon the pathogenicity of the amoeba.] *Nisshin Igaku* **43** : 28-34. [Japanese with English summary.]

Matsumoto, H. (2). [Experimental amoebic infection of the liver in hamsters with special reference to the influence of the alternation of associated bacterial flora upon the production of amoebic hepatitis.] *Nisshin Igaku* **43** : 292-298. [Japanese with English summary.]

Matsunaga, T. *Spirosigmoilinella*, a new foraminiferal genus from the Miocene of Japan. *Trans. paleont. Soc. Japan N.S.* **18** 1955 : 49-50, figs.

Mattauer, M. *see* Glangeaud, L.

Matthes, D. Suctorienstudium VIII *Thecacinetia calix* (Schröder, 1907) (*Thecacinetidae* nov. fam.) und ihre Fortpflanzung durch Vermoid-Schwärmer. *Arch. Protistenk.* **101** : 477-528, figs.

Mauret, P. *see* Puytorac, P. de.

Maven, I. *see* Lynch, J. E.

Maxia, C. Geologia dei dintorni di Castiglione (Rieti). [Foraminifera.] *Boll. Uff. geol. Ital.* **73** 1951 : 229-266, figs.

Mayne, W. On the age of the *Choffatella*-bearing beds in Venezuela. *Micropaleontology* **2** : 92, fig.

Mazia, D. & Prescott, D. M. The role of the nucleus in protein synthesis in *Amoeba*. *Biochim. biophys. Acta* **17** 1955 : 23-34.

Mazia, D. *see* Child, F. M.

Meglitsch, P. A. The myxosporidian fauna of some fresh water and marine fishes. *Proc. Iowa Acad. Sci.* **59** 1952 : 480-486.

Meier, M. Die Monocystideenfauna der Oligochäten von Erlangen und Umgebung. *Arch. Protistenk.* **101** : 335-400, figs.

Meijer, W. *see* Graaf, F. de.

Mellon, G. B. & Wall, J. H. Geology of the McMurray Formation. Part 1. Foraminifera of the Upper McMurray and Basal Clearwater formations. *Rep. Res. Coun. Alberta* **72** : 1-29, figs.

Menard, H. W. Pleistocene and Recent sediments from the floor of the north-western Pacific Ocean. [Foraminifera.] *Bull. geol. Soc. Amer.* **64** 1953 : 1279-1294, figs.

Mendenhall, G. W. Distribution of Crow Creek member of Pierre shale in northeastern Nebraska. [Foraminifera.] *Bull. amer. Ass. Petrol. Geol.* **38** 1954 : 333-335.

Mendoza, N. C. *see* Goudkoff, P. P.

Mercado, T. I. *see* Brand, T. von.

Mercier, P. *see* Pangalos, G. E.

Merla, G. Geologie dell'Appennino settentrionale. [Foraminifera.] *Bull. Soc. geol. Ital.* **70** 1951 : 95-382, figs.

Merveille, P. *see* Depoux, R.

Messina, A. R. *see* Ellis, B. F.

Meyers, W. M. & Lysenko, M. G. The effect of salicylate treatment on plasma proteins in rats infected with *Trypanosoma lewisi*. *Exper. Parasit.* **5** : 1-21, figs.

MiacyzŹnski, T. *Myxidium pfeifferi* Auerbach i geneza cyst sporowcowych w nerkach ryb. *Zool. Polon.* **7** : 121-126.

Middour, E. S. *see* Frizzell, D. L.

Mikheeva, Z. F. *see* Kasimova, G. K.

Miklukho-Maklai, A. D. [Biostratigraphical divisions of the Upper Palaeozoic of the Kara-Chatir Ridge, S. Fergana.] [Foraminifera.] C.R. Acad. Sci. U.R.S.S. **108** : 1152-1154. [In Russian.]

Miklukho-Maklai, A. D. *see* Vistelius, A. B.

Miklukho-Maklai, K. V. [New data on the stratigraphy of Permian deposits in North Western Caucasus.] [Foraminifera.] C.R. Acad. Sci. U.R.S.S. **108** : 530-532. [In Russian.]

Miller, C. A. & Wagtendonk, W. J. van. The essential metabolites of a strain of *Paramecium aurelia* (Stock 47-8) and a comparison of the growth rate of different strains of *Paramecium aurelia* in axenic culture. J. gen. Microbiol. **15** : 280-291, figs.

Miller, C. A. *see* Johnson, W. H.

Miller, J. G. The prevention and treatment of anaplasmosis. Ann. N.Y. Acad. Sci. **64** : 49-55, figs.

Miller, L. T. *see* Feldman, H. A.

Miller, M. J., Neel, J. V. & Livingstone, F. B. Distribution of parasites in the red cells of sickle-cell trait carriers infected with *Plasmodium falciparum*. Trans. R. Soc. trop. Med. Hyg. **50** : 294-296.

Minato, M., Hashimoto, S., Suyama, K., Takeda, Y., Suzuki, Y., Kakimi, T., Yamada, K., Kimura, S., Ichikawa, T. & Suetomi, H. Zur Biostratigraphie der permischen Formation des Setamai-Geländes im Sud Kitakami Gebirge. J. geol. Soc. Japan **60** 1954 : 378-387. [German abstract.]

Minato, M. *see* Hayasaka, I.

Mitchell, O. G. *Trypanosoma vesperilionis* from some Southern Californian bats. J. Mammal. **37** : 443-444.

Mitchell, R. C. Tertiary boulders in the Cretaceous of Puerto Rico. [Foraminifera.] Science **116** 1952 : 418-420, fig.

Mitropoulos, M. *see* Renz, C.

Mjatliuk, E. V. In N. V. Dabagyan, E. V. Mjatliuk & L. S. Peshvanova : [New data on the Tertiary beds of Translatvia based on studies of foraminiferal faunas.] Geol. Sbornik. **1956** : 220-236, figs. [In Russian.]

Moetsch, J. C. *see* Otto, G. F.

Mohan, K. & Chatterji, A. K. Stratigraphy of the Miocene beds of Kathiawar, western India. Micro-paleontology **2** : 349.

Moir, R. J. & Somers, M. A factor influencing the protozoal population in sheep. Nature, Lond. **178** : 1472.

Moise, R. Studio sull' infezione naturale da *Plasmodium ovale*. Ann. Med. nav. trop. (Rome) **60** 1955 : 630-657, figs. [English summary.]

Molinari, V. (1). Nouveaux essais d'action du froid sur les trophozoites de divers protozoaires parasites. Bull. Soc. Path. exot. **49** : 254-260.

Molinari, V. (2). Sur le comportement d'*Entamoeba dysenteriae* et d'*E. invadens* en presence de temperatures de -79°C. (neige carbonique) et de -180°C. (azote liquide). Bull. Soc. Path. exot. **49** : 532-540.

Molinari, V. & Montezin, G. (1). Sur le comportement de trypanosomes et de plasmodies soumis aux basses temperatures de la neige carbonique et de l'azote liquide. Bull. Soc. Path.-exot. **48** : 445-450.

Molinari, V. & Montezin, G. (2). Variations de la virulence de *Trypanosoma congolense* chez la souris après action d'un froid de -180°C. Bull. Soc. Path. exot. **49** : 651-654.

Molinari, V. *see* Lamy, L.

Monica, Sister [see also Taylor, M.] Spores of the large free-living *Amoebae*. Nature, Lond. **178** : 100.

Monsur, K. A. Alcoholic extracts of Kedrowsky's bacillus as antigen for complement fixation tests in Kala-azar. Trans. R. Soc. trop. Med.-Hyg. **50** : 91-96.

Montezin, G. *see* Molinari, V.

Moore, L. L. A. *see* Mackie, T. T.

Moore, W. E. Geology of Jackson County, Florida [Foraminifera]. Geol. Bull. Fla. geol. Surv. **37** 1955 : 1-101, figs.

Moracová - Hassdentenfelová, V. Another rediscovery of commensal *Vorticella* upon *Conochilus* in Czechoslovakia. Hydrobiologia **8** : 181-183, figs.

Morehouse, N. F. & McGuire, W. C. Morbidity and mortality among chickens infected with large numbers of the intestinal coccidium *Eimeria acervulina* Tyzzer, 1929. J. Parasit. **42**, Suppl. : 24.

Morehouse, N. F. & McKay, F. On the chemotherapeutic action of 3-nitro-4-hydroxyphenyl-arsonic acid against the coccidium *Eimeria tenella* in chickens. Proc. Iowa Acad. Sci. **58** 1951 : 507-516.

Moriguchi, C. [A method to induce encystment of *Entamoeba histolytica* in vitro and on the effect of pH value of the medium upon the encystment.] Nisshin Igaku **43** : 571-575. [Japanese with English summary.]

Morikawa, R. Fusulinids from Omagata, Kamiyoshida-mura, Northern part of Kanto mountainland. Sci. Rep. Saitama Univ. **2B** : 249-260, figs.

Morikawa, R. & Horiguchi, M. *Parafusulina nakamigawai* n. sp. from the Hdoyama formation in the neighbourhood of Kuzu City, Tochigi Prefecture. Sci. Rep. Saitama Univ. **2B** : 261-264, fig.

Morishima, M. Deposits of foraminiferal tests in the Tokyo Bay, Japan. Mem. Coll. Sci. Kyoto **22B** 1955 : 213-222, fig.

Morkhoven, F. P. C. van see Grimsdale, T. F.

Mornet, P. Les hématozooses animales carence protidique des populations humaines. Rev. Elev. **8** 1955 : 277-283.

Morozova, V. G. [Plates for the selection and analysis of microfossils.] Micropal. Stud. Akad. Nauk SSSR. Otdel geol.-geog. **1** : 69-78, fig. [In Russian.]

Møller, K. M. & Prescott, D. M. Observations on the cytochromes of *Amoeba proteus*, *Chaos chaos* and *Tetrahymena geleii*. Exp. Cell Res. **9** 1955 : 375-377.

Morris, J. A., Aulisio, C. G. & McCown, J. M. Serological evidence of toxoplasmosis in animals. J. inf. Dis. **98** : 52-54.

Morrison, J. see Lynch, J. E.

Mortelmans J. see Deom, J.

Moscovici, C. Ricerche immunologiche sui toxoplasmi e i sarcosporidi. R.C. Ist. sup. Sanit. **17** 1954 : 1002-1006.

Mossion, X. see Cavier, R.

Mouchet, J. see Languillon, J.

Moulton, J. E. & Christensen, J. F. The histochemical nature of *Anaplasma marginale*. Amer. J. vet. Res. **16** 1955 : 377-380, figs.

Mučibabić, S. Some aspects of the growth of single and mixed populations of flagellates and ciliates. The effect of temperature on the growth of *Chilomonas paramecium*. J. exp. Biol. **33** : 627-644, figs.

Mudrow-Reichenow, L. Spontanes vorkommen von amöben und Ciliaten bei laboratoriumstieren. Z. Tropenmed. u. Parasit. **7** : 198-216, fig.

Mügge, E. Die konjugation von *Vorticella campanula* (Ehrbg.). Arch. Protistenk. **102** : 165-208.

Mühlpfordt, H. & Martinez-Silva, R. Die Wirkung von Isoconessin und Neoconessin im vergleich zu conessin und emetin auf *Entamoeba histolytica* in vitro. Z. Tropenmed. u. Parasiten. **7** : 211-219.

Muldini, S. Mikropaläontologische Untersuchungen im Jungtertiär des Beckens von Tuzla (Nord-Bosnien). Verh. geol. Bundesanst. Wien **2** 1955 : 105-172, fig.

Müller-Liebenau, I. Die Besiedlung der Potamogeton-Zone ostholsteinerischer Seen. Arch. Hydrobiol. **52** : 470-606, figs.

Münch, H. D. Zur Fauna des Küstengrundwassers der Insel Heidendsee. III Spirotriche und peritriche, Rotatorien und Archianneliden aus den Küstengrundwasser (Anhang. Oligochaeten und Copepoden). Wiss. Z. E. M. Arndt Univ. Greifswald Maths. Nat. R. **5** : 433-436.

Murand, J. *see* Galliard, H.

Muraour, P. *see* Glangeaud, L.

Murat, R. & Scolari, G. Présence et répartition stratigraphique de *Pfenderina neocomiensis* (Trochamminidae) dans le Jura et l'Autochtone Alpin. Arch. Sci. Genève **9** : 97-101, figs.

Murray, G. E. Louis Joseph Wilbert jr. (1919-1953). J. Paleont. **27** 1953 : 619-622, figs.

Nadel, E. M. *see* Taylor, D. J.

Nafria, A. F. *see* Matilla, V.

Naidu, K. V. A new species of actinomyxid sporozoan parasite in a fresh-water oligochaete. J. Protozool. **3** : 209-210, fig.

Nairn, A. E. M. The Lower Carboniferous rocks between the Rivers Esk and Annan, Dumfriesshire. [Foraminifera.] Trans. geol. Soc. Glas. **22** : 80-94, figs.

Nakabayashi, T. *see* Inoki, S.

Nakamura, M. Amoebicidal action of azaserine. Nature, Lond. **178** : 1119-1120.

Nakamura, M. & Baker, E. E. (1). Effect of antimetabolites on growth of *Entamoeba histolytica*. II. Pantothenic and coenzyme A antagonist. Proc. Soc. exp. Biol. Med. **92** : 723-725.

Nakamura, M. & Baker, E. E. (2). Nutritional requirements of *Entamoeba histolytica*. Amer. J. Hyg. **64** : 12-22.

Nakamura, M. & Baker, E. E. (3). Inhibition of *Entamoeba histolytica* cultures by specific antibody. J. Protozool. **3** Suppl. : 2.

Nakamura, M. *see* Jonsson, S.

Nakata, A. Micronuclear behaviour during the conjugation of *Paramecium calkinsi*. Zool. Mag., Tokyo **65** : 306-310. [English summary : 310.]

Nakazawa, K. & Shimizu, D. Discovery of *Glytosphericas* from Hyogo Prefecture, Japan. [Foraminifera.] Trans. palaeont. Soc. Japan N.S. **17** 1955 : 13-18, fig.

Nakkady, S. S. & Osman, A. The genus *Globotruncana* in Egypt, taxonomy and stratigraphic value (abstr.). Rés. des Comm. 19th Congr. géol. Inter. Algér. **1952** : 119.

Nanney, D. L. Caryonidal inheritance and nuclear differentiation. Amer. Nat. **90** : 291-307, figs.

Naquira, F. *see* Thiermann, E.

Nardone, R. M. Braungart, D. C., Hurley, M. P. & Gilson, M. E. The effect of surface-active agents on the permeability, survival and pseudopod formation of *Pelomyxa carolinensis*. J. Protozool. **3** : 119-121, figs.

Nascimento, R. *see* Oliveira, L. de.

Nathan, H. A., Davis, R. J. & Sanders, M. On the mode of action of pyrimethamine. J. Protozool. **3** Suppl. : 8.

Nathan, H. A., Hutner, S. H. & Levin, H. L. Independent requirements for "crithidia factor" and folic acid in a trypanosomid flagellate. Nature, Lond. **178** : 741-742, fig.

Nathan, H. A. *see* Hutner, S. H.

Natland, M. L. & Kuenen, Ph. H. Sedimentary history of the Ventura Basin, California, and the action of turbidity currents. [Foraminifera]. Soc. Econ. Pal. Min. Spec. Publ. **2** 1951 : 76-107.

Nauck, E. G. Problemas inmunitarios en el paludismo ? Med. colon. **23** 1954 : 384-404.

Neal, R. A. (1). Strain variation in *Entamoeba histolytica* III. The influence of the bacterial flora on virulence to rats. Parasitology **46** : 183-191.

Neal, R. A. (2). Proteolytic enzymes in *Entamoeba histolytica*. Nature, Lond. **178** : 599.

Neal, R. A. & Vincent, P. Strain variation in *Entamoeba histolytica*. II. The effect of serial liver passage on the virulence. *Parasitology* **46**: 173-182.

Nebert, K. Sedimentologisch-stratigraphisch Untersuchungen im Jungtertiär südwestlich von Hartberg (Oststeiermark). [Foraminifera.] *Monat. Berg-Hüttenmänn Oesterreich* **96** 1951: 50-57.

Nectoux, P. Rhizopodes thecamoebiens des environs du Creusot. *Bull. Féd. franç. Soc. Sci. nat.* **5**: 127-135.

Neel, J. V. *see* Miller, M. J.

Neghme, A., Silva, R. & Artigas, J. El laboratorio en el diagnóstico de la amibiasis intestinal. *Bol. chil. Parasit.* **10**: 66-71.

Neitz, W. O. (1). Classification, transmission, and biology of piroplasms of domestic animals. *Ann. N.Y. Acad. Sci.* **64**: 56-111.

Neitz, W. O. (2). Corridor disease. A fatal form of bovine theileriosis encountered in Zululand. *Bull. epizoot. Dis. Afr.* **3** 1955: 121-123.

Neitz, W. O. & Jansen, B. C. A discussion on the classification of the Theileridae. *Onderstepoort. J. vet. Res.* **27**: 7-18.

Neitz, W. O. *see* Jansen, B. C.

Nelson, W. A. Mortality in the sheep ked, *Melophagus ovinus* (L.) caused by *Trypanosoma melophagium* *Nature, Lond.* **178**: 750.

Nemkov, G. I. *see* Garetzki, R. G.

Nenninger, E. S. *see* Mackie, T. T.

Neri, I. *see* Corradetti, A.

Nesterenko, L. P. [Stratigraphy of the Permian deposits in the Donetz basin.] *Bull. Acad. Sci. U.R.S.S. geol.* **3**: 33-48. [In Russian.]

Nesterenko, L. P. *see* Kireeva, G. D.

Neumann, M. (1). Sur un *Cibicides* nouveau du Lutétien supérieur d'Aquitaine: *Cibicides daguerri* n. sp. *C.R. Soc. géol. Fr.* **5** 1954: 113-117, figs.

Neumann, M. (2). Formation des loges équatoriales chez les Orthophragmines incidence sur leur classification. *C.R. Ass. franç. Av. Sci.* **73** 1955: 295-299, figs.

Neumann, M. (3). Étude des Orthophragmines contenues dans les marnes à *Xanthopsis dufourii* (Lutétien inf.) de la Chalosse de Montfort (Landes). *Bull. Soc. géol. Fr.* **5** 1955: 125-134, figs.

Nevenić, V., Sibalić, S. & Cvetiković, L. [Une contribution à la connaissance de la faune parasitaire des lapins de garenne de Vojvodine.] *Acta Vet., Belgrade* **4** 1954: 53-62, figs. [French summary.]

Newberne, J. W. The pathology of *Leucocytozoon* infection in turkeys with a note on its tissue stages. *Amer. J. vet. Res.* **16** 1955: 593-597, figs.

Newton, B. A. A synthetic growth medium for the trypanosomid flagellate *Strigomonas* (*Herpetomonas*) *oncopelti*. *Nature, Lond.* **177**: 279-280.

Nicosia, M. L. Foraminiferi oligocenici delle "Argille Rosse" di Catenanuova (F° 269 "Paterno-Silicia"). *Boll. Uff. geol. Ital.* **74** 1953: 391-405, figs.

Niemegeers, C. *see* Evens, F.

Nigrelli, R. F., Jakowska, S. & Padnos, M. *Tetrahymena* as pathogenic epibiont in fishes and urodeles. *J. Protozool.* **3** Suppl.: 10.

Nigrelli, R. F. *see* Jakowska, S.

Nipkow, F. *Epistylis rotans* Švec im Plankton des Zürichsees. Ein Beitrag zur Biologie dieses Planktoninfusoriiums. *Schw. Z. Hydrol.* **18**: 161-170, figs.

Noble, G. A. Cold culture. *J. Parasit.* **42**: 581-584.

Nogueira, A. R. *see* Trinção, C.

Noirot-Timotheé, C. (1). Les structures infraciliaires des Ophryoscolecidae (Infusoires Oligotriches). Étude du genre *Ophryoscolex* Stein. *C.R. Acad. Sci. Paris* **242**: 2865-2867, figs.

Noirot-Timotheé, C. (2). La structure de la cuticule chez les Ophryoscolecidae. *Bull. Soc. zool. Fr.* **81**: 44-47, fig.

Noirot-Timotheé, C. (3). La limite ectoplasme-endoplasme chez *Endioplodinium medium* (Infusoires Ophryoscolecidae). Bull. Soc. zool. Fr. **81** : 47-52, figs.

Nomura, H. [Histochemical studies on intestinal protozoa. I. Studies on the distribution of phosphatase in several species of trichomonads.] Keio Jgaku **33** : 241-247, figs. [Japanese, with English summary.]

Núñez, M. C. see Markell, E. K.

Nutting, W. L. Reciprocal protozoan transfaunations between the Roach, *Cryptocercus*, and the termite, *Zootermopsis*. Biol. Bull. Woods Hole **110** : 83-95, figs.

Nutting, W. L. see Cleveland, L. R.

Nyholm, K.-G. (1). Studies on Recent Allogromiidae (4). *Phainogullmia aurata* n. gen., n. sp. Zool. Bidr. Från Uppsala **30** 1955 : 465-474, figs.

Nyholm, K.-G. (2). Observations on the monothalamous *Hippocrepinella alba* Heron-Allen & Earland. Zool. Bidr. Från Uppsala **30** 1955 : 475-484, figs.

Nyholm, K.-G. (3). On the life cycle and cytology of the foraminifera *Nemogullmia longevariabilis*. Zool. Bidr. Från Uppsala **31** : 483-496, figs.

Obradovic, S. (1). Kurzer Rückblick auf die Schichter eines Teils der Bohrung Velika Greda 21 auf Grund mikropaläontologischer Untersuchungen. [Foraminifera.] Zborn. Radova geol. Inst. Beograd **7** 1954 : 229-234, fig. [German summary : 232.]

Obradovic, S. (2). [Darstellung der Schichtenfolgen aus den Bohrungen in der Gegend von Sedlarica vom mikropaläontologischer Standpunkt.] Zborn. Radova geol. Inst. Beograd **7** 1954 : 235-245, fig. [German summary : 243.]

Odum, H. T., Lackey, J. B., Hynes, J. & Marshall, N. Some red tide characteristics during 1952-1954. Bull. mar. Sci. Gulf & Caribbean **5** 1955 : 247-258.

Ogawa, K. see Ijiri, S.

Okada, T. A. Culture of *Frontonia leucus*. Zool. Mag. Tokyo **65** : 207-209.

Okpala, I. The incidence of intestinal parasites among school children in Lagos (Nigeria). W. Afr. med. J. **5** : 167-170.

Okropiridze, O. V. [On the problem of supplementary chambers in *Globigerina*.] C.R. Acad. Sci. U.R.S.S. **106** : 338-341, figs. [In Russian.]

Oliveira, L. de, Nascimento, R. & Krau, L. Observações biogeográficas e hidrobiológicas sobre a lagôa de Maricá. Mem. Inst. Osw. Cruz **53** 1955 : 171-262, figs. [English summary : 228-262.]

Ord, M. J. The site of damage in amoebae exposed to low concentrations of methyl di- (β -Chloroethyl)-amine (a 'Nitrogen Mustard'). Quart. J. micr. Sci. **97** : 39-45, fig.

Ord, M. J. & Danielli, J. F. The site of damage in amoebae exposed to lethal concentrations of methyl di- (B-Chloroethyl)-amine (a 'nitrogen mustard'). Quart. J. micr. Sci. **97** : 17-28, figs.

Orfila, J. see Fabiani, G.

Ormerod, W. E. & Killick-Kendrich, R. Developmental forms of *Trypanosoma lewisi* in the vasa necta of the kidney. Trans. R. Soc. trop. Med. Hyg. **50** : 4.

Ormières, R. see Theodoridès, J.

Ormières, R. see Tuzet, O.

Orr, H. D. Quantitative studies of protozoan populations for two areas of Pymatuning Lake, Pennsylvania. Ecology **35** 1954 : 332-334.

Osaki, H. see Inoki, S.

Osborne, M. M. see Grayshon, J. E.

Osman, A. see Nakkady, S. S.

Oswald, D. H. The Carboniferous Rocks between the Ox Mountains and Donegal Bay. Quart. J. geol. Soc. London, **111** 1955 : 167-186, figs.

Ottmann, F. Sur la présence de Pliocene marin dans la région d'Ajaçcio. [Foraminifera.] C.R. Acad. Sci. Paris **236** 1953 : 1589-1591.

Otto, G. F., Moetsch, J. C. & Schock, R. U. Studies on the activity of bis-quinaldines against experimental trypanosomiasis. *J. Parasit.* **42** Suppl. : 21-22.

Oye, P. van (1). Rhizopoda Venezuelas mit besonderer Berücksichtigung ihrer Biogeographie. *Ergebn. Dtsch. Limnol. Venezuela Exped.* 1952. Berlin **1** 1956 : 329-360, figs.

Oye, P. van (2). Overzicht van onze kennis der Rhizopodenfauna van België. *Biol. Jaarb.* **23** : 283-289.

Oye, P. van (3). On the Thecamoeban fauna of New Zealand with descriptions of four new species and biogeographical discussion. *Hydrobiologia* **8** : 16-37, figs.

Packchanian, A. Chemotherapy of African sleeping sickness. II. Chemotherapy of experimental *Trypanosoma gambiense* and *Trypanosoma rhodesiense* in mice (*Mus musculus*) with a new antibiotic Amphomycin. *Antibiot. & Chemoth.* **6** : 684-691.

Padmavathi, P. B. "Fission zone" in *Spirostomum ambiguum*. *Experientia* **12** : 382-383, figs.

Padmavathi, P. B. *see* Seshachar, B. R.

Padnos, M. *see* Nigrelli, R. F.

Palencia, L. *see* Varela, G.

Palmer, B. M. F. A comparative study of the incidence of intestinal parasites of children in Des Moines, Iowa. *Proc. Iowa Acad. Sci.* **59** 1952 : 487-491, fig.

Pan, C. *see* Ritchie, L. S.

Panetsos, A. *see* Terlatzis, C.

Pangalos, G. E., Pavlatos, M. & Mercier, P. The Sabin-Feldman dye-test. *Trans. R. Soc. trop. Med. Hyg.* **50** : 583-586.

Papp, A. (1). Miogypsinidae aus dem Oligozän von Zagorje (Slovenien, Jugoslawien). *Geol. Rozp. Poročila* **2** 1954 : 168-178, figs. [Slav Resumé.]

Papp, A. (2). [Über das Vorkommen von Orbitoiden im Maastricht der Fruška-Gora (Jugoslawien).] *Ann. géol. Pén. balkan* **22** 1954 : 81-85, figs. [German summary : 86.]

Papp, A. (3). Morphologisch-genetische Untersuchungen an Foraminiferen. *Paläont. Z.* **29** 1955 : 74-78, fig.

Papp, A. & Grill, R. Foraminifera. In Beck-Mannagetta, P., *Zur Geologie und Paläontologie des Tertiärs des unteren Lavanttales. Die Geologie des Tertiärbeckens. Jahrb. Geol. Bundesanst. Wien* **95** 1952 : 43-102.

Pappas, G. D. Helical structures in the nucleus of *Amoeba proteus*. *J. biophys. & biochem. Cytol.* **2** : 221-222, fig.

Paraskevaidis, I. Bemerkungen über die stratigraphie Greichenlands. [Foraminifera.] *Ecl. géol. helv.* **47** 1954 : 114-117.

Párducz, B. (1). Reizphysiologische Untersuchungen an Ziliaten. IV. Über das Empfindungs- bzw. Reaktionsvermögen von *Paramecium*. *Acta biol. Acad. Sci. Hungar.* **VI** : 289-316, figs. [English summary : 316.]

Párducz, B. (2). [Studies on the reactions to stimuli in the ciliate Infusoria. V. On the physiological mechanism of the avoiding reaction and of the orientation in space.] *Acta biol. Acad. Sci. Hung.* **7** : 73-99, figs. [English summary : 98-9.]

Parke, M., Manton, I. & Clarke, B. Studies on marine flagellates. II. Three further species of *Chrysochromulina*. *J. mar. biol. Ass. U.K.* **35** : 387-414, figs.

Parker, F. L. Distribution of planktonic foraminifera in some Mediterranean sediments. *Deep-Sea Res.* **3** Suppl. 1955 : 204-211, fig.

Parker, F. L. *see* Phleger, F. B.

Parker, H. *see* Jellison, W. L.

Pashkevich, E. J. *see* Pistrak, R. M.

Pastacaldi, V. *see* Sautet, J.

Patrascanu, V. *see* Wasserman, L.

Pattilo, W. H. *see* Becker, E. R.

Paul, J. & Schlanstedt, R. Antikörperbildung nach Toxoplasma-Antizenzufuhr bei Kindern. Z. Immun. Forsch. **113** : 1-14.

Pavlatos, M. *see* Pangalos, G. E.

Payne, E. H., Gonzales-Mugabura, L. & Schleicher, E. M. An intestinal parasitic survey in the High Cordilleras of Pem. I. Amer. J. trop. Med. Hyg. **5** : 696-698.

Pecora, P. *see* Hirshfield, H. I.

Peel, E. *see* Chardome, M.

Peirson, J. F. *see* Phleger, F. B.

Penndorf, H. *see* Görges, J.

Penner, L. R. Studies on renal coccidiosis of wild ducks from Long Island Sound. J. Protozool. **3** Suppl. 10.

Perconig, E. (1). La stratigrafia del sondaggio No. 1 di Morrovalle eseguito dall'A.G.I.P. nelle Marche. [Foraminifera.] Boll. Uff. geol. Ital. **74** 1953 : 137-153, fig.

Perconig, E. (2). Due nuove specie di *Uvigerina* del Neogene dell Pianura Padana. Boll. Uff. geol. Ital. **77** 1955 : 181-198, figs.

Perconig, E. (3). Ricerche stratigrafiche e micropaleontologiche nella regione Marchigiana (Foglia Fermo). [Foraminifera.] Boll. Uff. geol. Ital. **77** 1955 : 199-269, figs.

Pereira, A. *see* Soeiro, A.

Pereira, M. *see* Soeiro, A.

Perez-Reyes, R. Tratamiento curativo de ratones blancos infectados con *Plasmodium berghei*, utilizando la asociacion aralen-neo-quipenyl. Acta zool. Mexicana **1** 1955 : 1-5.

Perez Reyes, R. *see* Soberon y Parra, G.

Perin, G. Studio micropaleontologico dei terreni miocenici del Friuli Occidentale. [Foraminifera.] Mem. Accad. Patavina Cl. Sci. Math. e Nat. **68** : 1-13, figs.

Perkins, E. J. (1). Notes on the incidence of parasitic Protozoa in Herefordshire. Trans. Woolhope Nat. Fld. Cl. **35** : 53-57.

Perkins, E. J. (2). Notes on the fauna of the River Lugg at Shelwick July-August 1953. Trans. Woolhope Nat. Fld. Cl. **35** : 57-61.

Perkins, E. J. *see* Maghraby, A. M. *el*.

Perman, J. [Über die ökologische Valenz der Gattung *Euglena* Ehrenb. (Schönauge).] Biología, Bratislava **11** : 672-677.

Petersen, J. B. & Hansen, J. B. On the scales of some *Synura* species. Biol. Medd. **23** : 1-28, figs.

Petersen, I. C. *see* Berg, K.

Petri, S. Foraminiferos Físseis da Bacia di Marajo. Bol. Fac. Filos Ciénc. S. Paulo **176** 1954 : 1-170, figs.

Petrović, Z. [Recherches expérimentelles de la biologie des *Trichomonas* chez l'hôte *in vitro*.] Acta Vet., Belgrade **4** 1954 : 77-84. [French summary.]

Petrovitch, Z. *see* Simitch, T.

Petrů, M. & Vojtěchovska, M. (1). [Experimental trypanosomiasis (*Trypanosoma gambiense*) in dogs inoculated into the cerebrospinal fluid.] Českoslov. Parasit. **3** : 81-88. [In Czech.]

Petrů, M. & Vojtěchovska, M. (2). [Effect of trypanocidal drugs during barbiturate narcosis of mice.] Českoslov. Parasit. **3** : 89-107, figs. [Czech with Russian summary.]

Petrusheveski, G. K. [Contributions to the problem of parasitocoenosis in fish]. Trav. Inst. Zool. Acad. Sci. U.R.S.S. **21** : 44-50. [In Russian.]

Petters, V. News-Colombia. Micropaleontology **2** : 95-96.

Petters, V. & Sarmiento, R. Oligocene and Lower Miocene biostratigraphy of the Carmen-Zambrano area, Colombia. Micropaleontology **2** : 7-36, figs.

Petzold, H.-G. Zur Fauna des Küstengrundwassers der Insel Hiddensee. II. Holotriche ciliaten, Nematoden und Gastrotrichen aus dem Küstengrundwasser. Wiss. Z. E. M. Arndt. Univ. Griefswald Math. Nat. R. **5** : 429-433.

Pfeiffer, H. H. Über die Heranzucht "reiner Linien" von *Paramecium caudatum*. Mikrokosmos **45** : 143.

Phleger, F. B. (1). Ecology of foraminifera and associated microorganisms from Mississippi Sound and environs. Bull. amer. Ass. Petrol. Geol. **38** 1954 : 584-647, figs.

Phleger, F. B. (2). Foraminiferal faunas in cores offshore from the Mississippi Delta. Deep-Sea Res. **3** Suppl. 1955 : 45-57, figs.

Phleger, F. B. (3). Significance of living foraminiferal populations along the Central Texas coast. Contr. Cush. Fdn. Foram. Res. **7** : 106-151, figs.

Phleger, F. B., Parker, F. L. & Peirson, J. F. North Atlantic core Foraminifera collected by Swedish deep-sea expedition (abstr.). Bull. Amer. Ass. Petrol. Geol. **37** 1953 : 188.

Pick, F. see Deschiens, R.

Piercy, P. L. Transmission of anaplasmosis. Ann. N.Y. Acad. Sci. **64** : 40-48.

Pillau, S. see Barwick, R. E.

Pillinger, R. see Marshall, S. C.

Pinto, J. de S. Radiolários do plancton marinho de Angola. An. Jta Inv. Ultramar, Lisbon **8** : 127-151, figs.

Pistrak, R. M., Semikhatova, S. V., Pashkevich, E. I. & Vereiskaya, K. N. [On the stratigraphy and lithology of the Lower Carboniferous of Belorussia.] Bull. Acad. Sci. U.R.S.S. geol. **4** : 59-73. [In Russian.]

Pitelka, D. R. (1). Fine structure of the flagellar apparatus and associated organelles in *Trichonympha*. J. Protozool. **3** Suppl. : 4.

Pitelka, D. R. (2). An electron microscope study of cortical structures of *Opalina obtrigonoidea*. J. biophys. & biochem. Cytol. **2** : 423-432, figs.

Pizzi, P. T. & Chemke, S. J. Accion de la cortisona sobre la infeccion experimental de la rata por *Trypanosoma cruzi*. Biologica, Santiago No. 21, 1955 : 31-48, figs.

Pizzi, T. (1). Observaciones sobre fagocitosis de eritrocitos por *Entamoeba moshkovskii* Tshalaia, 1941. Bol. Chileno Parasit. **11** : 7-9, fig.

Pizzi, T. (2). Comprobación de *Pneumocystis carinii* en casos de neumonía intersticial plasmocitaria. Comunicacion preliminar. Bol. Chileno Parasit. **11** : 16-17, fig.

Plant, W. & Rustad, R. C. Uptake of adenine- 8^{14}C by whole and fractional amoebae. Nature, Lond. **177** : 89-90, fig.

Plant, W. see Rabinovitch, M.

Poluszynski, G. [Übersicht anderer arbeiten aus dem gebiete der veterinären. Fischerei-und allgemeinen Parasitologie.] Wiad. Parazyt. **1** 1955 : 117-140. [German summary.]

Poncet, A. see Sergent, E.

Porter, A. & Vinall, H. F. A protozoan parasite (*Ichthyosporidium* sp.) of the neon fish *Hypdembrycon innesi*. Proc. zool. Soc. Lond. **126** : 397-402, figs.

Porter, E. D. Observations on stomatogenesis in *Paramecium aurelia*. J. Protozool. **3** Suppl. : 9.

Post, R. J. see Cushman, J. A.

Potts, W. H. see Thomas, W. E.

Powelson, E. E. Differences in the silver-line system and various measurements in individuals, stocks and varieties of *Paramecium aurelia*. J. Protozool. **3** Suppl. : 9.

Powers, E. L. see Ehret, C. F.

Plumley, W. J. & Graves, R. W. jr. Virgilian reefs of the Sacramento Mountains, New Mexico. [Foraminifera]. J. Geol. **62** 1953 : 1-16, figs.

Pokorny, V. [On some paleoecological and micro-biostratigraphical problems of the Tertiary of Moravia.] [Foraminifera.] Sborn. geol. Úst. čl. **20** 1953 : 169-187. [Russian and English summaries.]

Prescott, D. M. (1). Relation between cell growth and cell division. II. The effect of cell size on cell growth rate and generation time in *Amoeba proteus*. Exp. Cell Res. **11** : 86-94, figs.

Prescott, D. M. (2). Relation between cell growth and cell division. III. Changes in nuclear volume and growth rate and prevention of cell division in *Amoeba proteus* resulting from cytoplasmic amputations. Exp. Cell Res. **11** : 94-98, fig.

Prescott, D. M. (3). Mass and clone culturing of *Amoeba proteus* and *Chaos chaos*. C.R. Lab. Carlsberg, ser. chim. **30** : 1-12, fig.

Prescott, D. M. (4). Relations between cell growth and cell division. I. Reduced weight, cell volume, protein content, and nuclear volume of *Amoeba proteus* from division to division. Exp. Cell Res. **9** 1955 : 328-337, figs.

Prescott, D. M. & James, J. W. Culturing of *Amoeba proteus* on *Tetrahymena*. Exp. Cell Res. **8** 1955 : 256-258, figs.

Prescott, D. M. see Mazia, D.

Prescott, D. M. see Möller, K. M.

Prey, S. Der obersezone Muntigler Flysch als Äquivalent der Mürhsandstein-führenden Oberkreide. [Foraminifera]. Verh. Geol. Bundesanst. Wien **1952** : 92-101.

Pringle, C. R. Antigenic variation in *Paramecium aurelia*, variety 9. Z. indukt.-Abstamm.-u. Vererb. Lehre **87** : 421-430, figs.

Prost, E. [Parasitic invasions of cattle in Poland.] Acta Parasit. Polon. **3** : 217-231. [English summary.]

Pryzbylkiewicz, Z. see Dolezal, M.

Puri, H. S. Contribution to the study of the Miocene of the Florida Panhandle. [Foraminifera.] Geol. Bull. Fla. geol. Surv. **36** 1953 : 69-151, figs.

Puytorac, P. de & Mauret, P. Détermination de certaines des conditions écologiques propres aux différentes ciliés parasites du tube digestif d'*Allolobophora savignyi* G. et H. (Oligochète). Bull. biol. **90** : 122-141, figs.

Raabe, Z. [Investigations on the parasitofauna of freshwater molluscs in the brackish waters.] Acta Parasit. polon. **4** : 375-406, figs. [English summary.]

Rabello, E. X. Incidência da *Trichomonas foetus* Reedmüller, 1928, em touras usadas para inseminação artificial no Estado de São Paulo. Rev. Fac. Med. Vet. S. Paulo **5** : 539-550, figs. [English summary.]

Rabinovitch, M. & Plant, W. Cytochemical and autoradiographic observations on nuclear ribonucleic acid in *Amoeba proteus*. Exp. Cell Res. **10** : 120-124, figs.

Raggatt, H. G. Markings on joint surfaces in Anglesea member of Demon's Bluff Formation, Anglesea, Victoria. [Foraminifera.] Bull. amer. Ass. Petrol. Geol. **38** 1954 : 1808-1810.

Raikov, I. B. see Bukhman, M. P.

Ramalho, A. C. R. see J. X. Cotrim.

Rama Rao, R. & Sirsi, M. *Rauwolfia* alkaloids in avian malaria (*P. gallinaceum*). Curr. Sci. **25** : 357.

Ramovs, A. (1). [Upper Palaeozoic strata on Konjiška Gora-Mountain and south of Žiže (Eastern Karavanke).] [Foraminifera.] Geol. Rozp. Poročila **2** 1954 : 221-224. [English summary.]

Ramovš, A. (2). Die Neoschwagerinenschichten in den Julischen Alpen. Neues Jb. Geol. Paläont. B **10** 1955 : 455-457.

Ramovs, A. see Kochansky-Devidé, V.

Ramsay, G. W. see Barwick, R. E.

Ramsbottom, W. H. C. see Magraw, D.

Ramsine, S. see Simitch, T.

Randall, J. T. Fine structure of some ciliate Protozoa. Nature, Lond. **178** : 9-14, figs.

Ranque, J. & Faure, A. Sensibilité de *Sciuris vulgaris* à la leishmaniose viscérale. Bull. Soc. Path. exot. **49** : 40-43.

Rao, M. V. N. see Ganapati, P. N.

Rao, S. R. N. News-India. Micropaleontology **2** : 196-197.

Rat, P. Observations sur les faciès saumâtres et marins de la base du Wealdien dans l'Est de la province de Santander (Espagne). [Foraminifera.] C.R. Acad. Sci. Paris **239** 1954 : 1820-1822.

Rat, P. *see* Ciry, R.

Rateau, J. *see* Languillon, J.

Rau, W. W. Foraminifera from the McIntosh Formation (Eocene) at McIntosh Lake, Washington. Contr. Cush. Fdn. Foramin. Res. **7**: 69-78, figs.

Rausser - Chernousova, D. M. (1). [On the ontogenesis of some Palaeozoic foraminifera.] Trudy Akad. Nauk. SSSR. Paleont. Inst. **20** 1949: 339-351, figs.

Rausser - Chernousova, D. M. (2). [On the primary taxonomic unity and systematics of foraminifera.] Micropal. Stud. Akad. Nauk SSSR. Otdel. geol.-geog. **1**: 5-22. [In Russian.]

Ravikovich, A. I. [The characteristic fauna of the Upper Paleozoic of the basin of the Upper Pechora (River Unya).] Bull. Soc. Nat. Moscow geol. **31**: 37-59, figs. [In Russian.]

Ray, A. P. & Sharma, G. K. Acquired resistance to chloroquine diphosphate in *P. gallinaceum* in chicks. Nature, Lond. **178**: 1291.

Ray, C. (1). Meiosis and nuclear behavior in *Tetrahymena pyriformis*. J. Protozool. **3**: 88-96, figs.

Ray, C. (2). Nuclear aberrations associated with lethal conjugation in *Tetrahymena pyriformis*. J. Protozool. **3** Suppl.: 2.

Raznitsin, V. A. [On the correlation of the Etreoungt Zone in the Russian Platform and the Urals.] [Foraminifera.] C.R. Acad. Sci. U.R.S.S. **106**: 893-896. [In Russian.]

Read, C. P. Adaptation to carbohydrate substrates and "direct" utilization of maltose by *Trichomonas*. J. Parasit. **42** Suppl.: 23.

Read, T. R. *see* Beaver, P. C.

Regnéll, G. *Leiosphaera* (Hystriochosph.) aus unterordovizischen Kalkstein in SO-Schonen, Schweden. Geol. Fören. Stockh. Förh. **77**: 546-556, figs.

Rego, S. & Garnham, P. C. C. The "Y" strain of *Trypanosoma cruzi*: leishmanial development in the spleen of mice. Trans. R. Soc. trop. Med. Hyg. **50**: 299-300.

Rego, S. F. M. *see* Magalhaes, A. E. A.

Řeháčková, V. [Well-water organisms of Prague.] Rozpr. české Akad. **63** 1953: 1-35, figs. [English summary.]

Reichel, M. Sur une Trocholine du Valanginien d'Arzier. Ecol. geol. Helvet. **48** 1955: 396-408, figs.

Reichenbach-Klinke, H. H. *Trichodina dohrai* n. sp. eine neue fischpathogene Ciliatenart aus dem Golf von Neapel. Z. Parasit. **17**: 365-370, figs. [English summary.]

Reichenow, E. Das Tierreich. I. Einzeller, Protozoen. (Sammlung Götschen, Bd. 444) Berlin: 115, figs.

Reinertson, J. W. *see* Thompson, P. E.

Reisner, A. *see* Wagtendonk, W. J. van.

Reiss, Z. News-Israel. Micro-paleontology **2**: 410-411.

Reitlinger, E. A. Lasiodiscidae fam. nov. Micropal. Stud. Akad. Nauk SSSR. Otdel. geol.-geog. **1**: 69-78, figs. [In Russian.]

Renz, C. & Mitzopoulos, M. Kreideforaminiferen aus dem Kalkhügel von Eleusis (Attika). Ann. géol. hellen. **3** 1951: 1-6.

Repal, S. N. la (1). Le bassin néogène du Chelif. [Foraminifera.] 19th Congr. internat. Géol. Algér. Monogr. Région 1, Algérie **16** 1952: 1-55.

Repal, S. N. la (2). Régions sud-telliennes et l'Atlas saharien. [Foraminifera.] 19th Congr. géol. Inter. Algér. Monogr. Région (1) Algérie **20** 1952: 1-39, figs.

Reshetniak, V. V. [Vertical distribution of Radiolaria in Kurilian-Kamchatka depression.] Trav. Inst. zool. Acad. Sci. U.R.S.S. **21**: 94-100, figs. [In Russian.]

Reshchetnyak, V. V. *see* Dogel, V. A.

Ressler, R. Un nouveau plasmodium de rat en Belgique: *Plasmodium inopinatum* n. sp. Ann. Soc. belges Med. trop. **36**: 259-263, fig.

Reusse, U. Konservierung einiger tierpathogener Protozoen durch Aufbewahrung bei tiefen Temperaturen. Z. Tropenmed. u. Parasit. 7 : 99-109.

Rey, M. (1). Comparaison des microfaunes du Nummulitique nord-marocain et du Nummulitique du Golfe du Mexique et de la mer des Caribes (abstr.). Rés. des Comm., 19th Congr. géol. Inter. Algér. 1952 : 163.

Rey, M. (2). Description de quelques espèces nouvelles de Foraminifères dans le Nummulitique nord-marocain. Bull. Soc. géol. Fr. (6) 4 1954 : 209-211, fig.

Rey, M. (3). News-North Africa. Micropaleontology 2 : 198-199.

Reynoldson, T. B. The population dynamics of host specificity in *Urceolaria mitra* (Peritricha) epizoic on fresh-water Triclad. J. Anim. Ecol. 25 : 127-143, figs.

Ribkin, M. L. see Chekhovich, V. D.

Ricci, M. (1). Ricerch parassitologiche nell' Isola d'Ischia. 3. Il parassitismo intestinale nella popolazione infantile. R.C. Ist. sup. Sanit. 17 1954 : 200-212.

Ricci, M. (2). Ricerch parassitologiche nell' Isola d'Ischia. 4. Nota sul parassitismo intestinale nella popolazione adulta. R.C. Ist. sup. Sanit. 17 1954 : 213-217.

Richards, H. G. Subsurface Triassic in eastern North Carolina. [Foraminifera.] Bull. amer. Ass. Petrol. Geol. 38 1954 : 2564-2565.

Richey, D. J. & Ware, R. E. Schizonts of *Leucocytozoon smithi* in artificially infected turkeys. Cornell Vet. 45 1955 : 642-643, fig.

Rickwood, F. K. The geology of the western highlands of New Guinea. [Foraminifera.] J. geol. Soc. Aust. 2 1955 : 63-82, figs.

Ridley, D. S. & Hawgood, B. C. The value of formol-ether concentration of faecal cysts and ova. J. clin. Path. 9 : 74-76.

Riedel, W. R. & Schlocker, J. Radiolaria from the Franciscan group, Belmont, California. Micropaleontology 2 : 357-360, figs.

Rios, J. Ma. see Almela, A.

Ritchie, L. S., Hunter, G. W. III., Yokogawa, M. & Pan, C. Parasitological studies in the Far East. X. An epidemiologic survey of Hokkaido, Japan. Jap. J. med. Sci. & Biol. 7 1954 : 523-537, map.

Rivola, E. see Languillon, J.

Robertson, M. see Kerr, W. R.

Robertson, M. Some aspects of trypanosomiasis with particular reference to the works of Sir David Bruce. J. trop. Med. Hyg. 59 : 69-77.

Robinson, C. V. see Andresen, N.

Robinson, E. S. see Barwick, R. E.

Robinson, T. A. see Beaver, P. C.

Roby, T. O. see Gates, D. W.

Roch, E. see Varela, G.

Rocha, A. T. News-Portugal Overseas. Micropaleontology 2 : 412-413.

Rocha, A. T. see Ferreira, J. M.

Rocha, A. T. & Ferreira, J. M. (1). Foraminiferos fósseis do túnel de Rossio. An. Asoc. esp. Progr. Cienc. 19 1954 : 345-348, fig.

Rocha, A. T. & Ferreira, J. M. (2). Estudo dos foraminiferos fósseis das "Argilas azuis com *Nonionella atlantica* Cushman" de cabo Ruivo (Portugal). An. Asoc. esp. Progr. Cienc. 20 1955 : 129-146, figs.

Rodgi, S. G. see Karandikar, K. R.

Rodhain, J. (1). Un cas de sarcosporidiose chez un psittacide *Eupsittula auricapillus* Licht. Ann. Parasit. hum. comp. 31 : 5-10, figs.

Rodhain, J. (2). Absence d'immunité croisée entre *Plasmodium berghei* et *Plasmodium vinckei* dans les infections chez les jeunes rats. C.R. Soc. Biol. Paris 148 1954 : 1519-1521.

Rodhain, J. (3). Les formes préérythrocytaires du *Plasmodium vivax* chez le chimpanzé. Ann. Soc. belge Méd. trop. 36 : 99-103, figs.

Rodhain, J. (4). Paradoxical behaviour of *Plasmodium vivax* in the chimpanzee. Trans. R. Soc. trop. Med. Hyg. 50 : 287-293, figs.

- Rodhain, J. *see* Lips, M.
- Roever-Bonnet, H. de. De epidemiologie van de toxoplasmose. *Ann. Soc. belge Méd. trop.* **36** : 373-393, figs.
- Roger, F. L'isolement de la souche reste le seul critère indiscutable d'identification du *Toxoplasma* lorsque le diagnostic doit être posé sur des pièces d'autopsie. *Bull. Soc. Path. exot.* **49** : 239-241.
- Roger, F. *see* Le Gac, P.
- Romaña, C. Acerca del ciclo evolutivo del *Trypanosoma* (*Schizotrypanum*) *cruzi* Chagas 1909, en sus fases tisular y hemática. *Mem. Inst. Osw. Cruz* **54** : 255-269, figs.
- Ronchetti, C. R. I foraminiferi del deposito elveziano di Dogliani (Cuneo). *Riv. ital. Paleont.* **61** 1955 : 171-180, figs.
- Roque, M. (1). La stomatogénèse pendant l'autogamie, la conjugaison et la division chez *Paramecium aurelia*. *C.R. Acad. Sci. Paris* **243** : 1564-1565.
- Roque, M. (2). L'évolution de la ciliature buccale pendant l'autogamie et les conjugaison chez *Paramecium aurelia*. *C.R. Acad. Sci. Paris* **242** : 2592-2595, figs.
- Rosa, K. [Mikroflora und Mikrofauna schwelender Halden bei Sokolov.] *Biológica, Bratislava* **11** : 541-547, figs. [German summary, p. 546.]
- Ross, G. I. M. *see* Hutner, S. H.
- Roth, J. S. Studies on the function of intracellular ribonucleases. I. The action of cobalt and nickel on *Tetrahymena pyriformis* W. *Exp. Cell Res.* **10** : 146-154.
- Roth, L. E. Further electron microscope studies of *Euplotes patella*. *J. Protozool.* **3** Suppl. : 5.
- Rotner, M. *see* Doolan, J. J.
- Rouiller, C., Fauré-Fremiet, E. & Gauchery, M. (1). Origine ciliaire des fibrilles scléro-proteiques pédonculaires chez les ciliés peritriches. *Etude au microscope électronique.* *Exp. Cell. Res.* **11** : 527-541, figs.
- Rouiller, C., Fauré-Fremiet, E. & Gauchery, M. (2). Les tentacules d'*Ephelota*; étude au microscope électronique. *J. Protozool.* **3** : 194-200, figs.
- Rouiller, C. R., Fauré-Fremiet, E. & Gauchery, M. (3). Fibras soléropoteiques, d'origine ciliaire chez les Infusoires péritriches. *C.R. Acad. Sci. Paris* **242** : 180-182.
- Rouiller, C. *see* Fauré-Fremiet, E.
- Rubin, R. *see* Diamond, L. S.
- Rubio, M. (1). Estudio de la enfermedad de chagas experimental del batracio. I. Factores que intervienen en la inmunidad natural. *Bol. chileno Parasit.* **11** : 28-32.
- Rubio, M. (2). Actividad lítica de sueros normales sobre formas de cultivo y sanguíneas de *Trypanosoma cruzi*. *Bol. chileno Parasit.* **1** : 62-69, figs.
- Rubio, M. (3). Mitosis en células parasitadas por *Trypanosoma cruzi*. Estudio en animales de laboratorio. *Biologica, Santiago* No. 22 : 51-56, figs.
- Rubio D., M. (1). Influencia del acetato de cortisona sobre la virulencia y localización tisular de una nueva cepa de *Trypanosoma cruzi*. Estudio de la persistencia de los cambios observados. *Biologica, Santiago* No. 21 1955 : 75-89, figs.
- Rubio D., M. (2). Estudio de una cepa de *Trypanosoma cruzi* aislada de triatorínidos de una localidad del sur del Perú. *Biologica, Santiago* No. 21 1955 : 59-72, figs.
- Rudzinska, M. A. The occurrence of hemixis in *Tokophrya infusionum*. *J. Protozool.* **3** Suppl. : 3.
- Rudzinska, M. A. & Trager, W. An electron microscope study of *Plasmodium lophurae*. *J. Parasit.* **42** Suppl. : 36.
- Rüegg, W. *see* Stainforth, R. M.
- Ruffie, J. *see* Bouisset, L.
- Ruffie, J. *see* Harant, H.

Ruiz de Gaona, M. & Colom, G. Estudios sobre las sinecias de los foraminíferos eocénicos de la vertiente meridional del Pirineo (Cataluña-Vizcaya). Inst. Investig. Geol. "Lucas Mallada" Estudios Geol. **12** 1950 : 293-434.

Rusconi, C. Mares y organismos extinguidos de Mendoza. Rev. Mus. Hist. nat. Mendoza **9** : 2-88, figs.

Russell, M. see Ladd, H. S.

Russell, P. F. World-wide malaria distribution, prevalence, and control. Amer. J. trop. Med. Hyg. **5** : 937-965.

Rustad, R. C. see Plant, W.

Růžicka, B. & Beneš, K. [A contribution to the knowledge of the Tortonian of Ostrava.] Sborn. geol. Úst. čsl. **20** 1953 : 25-83, figs. [Russian and English summaries.]

Růžicka, B. & Beneš, S. K. [Micropaleontological research in the Torton of Svinov.] Přírod. Sborn. Ostravsk. Kraje **13** 1952 : 32-35, figs. [English summary : 35.]

Ryley, J. F. Studies on the metabolism of the protozoa. 7. Comparative carbohydrate metabolism of eleven species of trypanosome. Biochem. J. **62** (2) : 215-222, figs.

Ryšavý, B. & Erhardová, B. Reservoir parasitäre Krankheiten der Haustiere in der freien Natur. Natürliche Infektionsherde [Symposium], p. 360. Slovak. Acad. Sci., Bratislava. [With German and Russian summaries.]

Ryther, J. H. Interrelation between photosynthesis and respiration in the marine flagellate, *Dunaliella euphratica*. Nature, Lond. **178** : 861-863, fig.

Sachs, I. B. The chemical nature of the cyst membrane of *Pelomyxa illinoensis*. Trans. Amer. micr. Soc. **75** : 307-313, figs.

Saegusa, S. (1). [Studies on the viability of *Dientamoeba fragilis* in saline solution of various concentrations and pH values and also in the artificial gastric juice.] Nisshin Igaku **43** : 315-320. [Japanese with English summary.]

Saegusa, S. (2). [Distribution of nucleic acids in *Dientamoeba fragilis* during nuclear division.] Nisshin Igaku **43** : 401-405, figs. [Japanese with English summary.]

Said, R. News-Egypt. Micropaleontology **2** : 96-97.

Said, R. & Kenaway, A. Upper Cretaceous and Lower Tertiary foraminifera from northern Sinai, Egypt. Micropaleontology **2** : 105-173, figs.

Salmirs, A. M. see Lynch, J. E.

Saltman, P. see Wirschafter, S.

Salvatori, U. II. Diagnosi di forme nuove *Tritaxilina maxima* n. sp. Riv. ital. Paleont. **61** 1955 : 36, fig.

Sandar, G. see Fromentin, H.

Sandar, M. see Fromentin, H.

Sanders, M. see Nathan, H. A.

Sande, M. van. Influence du paludisme sur les protéines sériques étudiées par micro-électrophorèse sur papier. Ann. Soc. belge Med. trop. **36** : 335-343.

Sanger, V. L. & Cole, C. R. Toxoplasmosis—VI. Isolation of toxoplasma from milk, placentas, and newborn pigs of asymptomatic carrier sows. Amer. J. vet. Res. **16** 1955 : 536-539, fig.

Sangiorgi, G., Caputi, F. & Chimiti, N. Reperti sulla microfauna dei liquami luridi di Bari. Boll. Soc. ital. Biol. sper. **29** 1953 : 146-147.

Saraauw, U. see Deschiens, R.

Sarmiento, R. see Petters, V.

Sato, R. [Immunological studies on *Entamoeba histolytica*. I. Immunological reactions with sera of guinea pigs which were intraperitoneally injected with living amoebae.] Kiseichu-gaku Zasshi **5** : 462-467, fig. [Japanese with English summary.]

Sauchery, M. see Fauré-Fremiet, E.

Saurin, E. L'âge des calcaires de Sagada (Luçon, Philippines). [Foraminifera]. C.R. Soc. géol. Fr. **13** 1954 : 290-292.

Sautet, J. & Caporali, J. Influence chez la souris blanche de divers régimes sur l'évolution de *Plasmodium berghei*. Méd. trop. **15** 1955 : 222-228.

Sautet, J., Pastacaldi, V. & Vuillet, J. Action de l'alcoolisme sur l'évolution de l'infection à *Plasmodium berghei* chez la souris. Bull. Soc. Path. exot. **49** : 640-647.

Sawai, K. Preliminary report on deposits of foraminiferal tests in Seto-naikai, Japan (Hiuchi-nada). Mem. Coll. Sci. Kyoto **22B** 1955 : 261-262.

Saxe, L. H. see Anderson, E.

Schaden, H. (1). Das Augentierchen *Euglena viridis*. Mikrokosmos **45** : 140-142, figs.

Schaden, H. (2). Das Glockentierchen Vorticella. Mikrokosmos **46** : 42-43, fig.

Schatz M. F. [Parasites of the goose in Solzy district (Leningrad region).] Trav. Soc. Nat. St. Petersb. (Leningr.) **69** 1947 : 202-222. [English summary.]

Scher, S. & Frank, O. Direct and coupled utilization of substrates by *Euglena gracilis* z. J. Protozool. **3** Suppl. : 7.

Scherbaum, O. Cell growth in normal and synchronously dividing moss cultures of *Tetrahymena pyriformis*. Exp. Cell Res. **11** : 464-476, fig.

Scherbaum, O. & Zenthen, E. Temperature - induced synchronous divisions in the ciliate protozoon *Tetrahymena pyriformis* growing in synthetic and proteose-peptone media. Exp. Cell Res. Suppl. **3** 1955 : 312-325, figs.

Schiller, J. (1). Untersuchungen an dem planktischen Protophyten. des Neusiedlersees 1950-54. I. Teil Wiss. Arb. Burgenland **9** 1955 : 1-66, figs.

Schiller, J. (2). Untersuchungen an den planktischen Protophyten des Neusiedler Sees 1950-1954. III. Teil. *Euglena*. S.B. öst. Akad. Wiss. (I) **165** : 547-583, figs.

Schinazi, L. A. & Ball, G. H. Changes in infectivity of *Plasmodium relictum* for avian hosts. Exper. Parasit. **5** : 541-550, figs.

Schindewolf, O. H. Kleinforaminiferen und paläontologische Chronologie. Neues Jb. Geol. Paläont. B. **2** 1955 : 82-84.

Schlanstedt, R. see Paul, J.

Schleicher, E. M. see Payne, E. H.

Schlocker, J. see Riedel, W. R.

Schmidt, H. Studien au darmbewohnenden Flagellaten der Termiten. II. Mitteilung Holsteilchen als Zelleinschlüsse und Nahrung bei *Trichonympha* und *Joenia*. Z. Parasitenk. **17** : 269-275, figs.

Schmidtke, L. Zur Übertragung der Toxoplasmose durch verfütterung von parasitenhaltigem gewebe. Z. Tropenmed. u. Parasit. **7** : 80-86.

Schmidtke, L. see Kunert, H.

Schneller, M. V. see Sonneborn, T. M.

Schock, R. U. see Otto, G. F.

Schoenborn, H. W. (1). Spontaneous changes in *Astasia longa* cells causing altered growth characteristics in a complete medium. J. Protozool. **3** Suppl. : 7.

Schoenborn, H. W. (2). Protection against lethal damage induced by ultraviolet radiation. J. Protozool. **3** : 97-99.

Schoenherr, K. E. Serologische Untersuchungen über Trichomonaden. Z. Immun. Forsch. **113** : 83-94.

Schoenherr, K. E. see Uhlenhuth, P.

Schofield, F. D. see Woodruff, A. W.

Scholtyssek, E. Untersuchungen über die coccidieninfektion bei Vögeln Zbl. Bakt. **165** : 275-289, figs. [English summary.]

Scholtyssek, E. & Weissenfels, N. Elektronenmikroskopische Untersuchungen von Sporozoen. I. Die Oocystenmembran des Hühnercoccids *Eimeria tenella*. Arch. Protistenk. **101** : 215-222, figs.

Schwalb, H. *see* Collinson, C.

Schwartz, B. Parasites common to animals and man. Rep. U.S. nat. Mus. 1955 [1956]: 419-431, figs.

Schwartz, E. *see* Frizzell, D. L.

Schwartz, V. (1). Nukleolenformwechsel und Zyklen der Ribosenukleinsäure in der vegetativen Entwicklung von *Paramecium bursaria*. Biol. Zbl. 75: 1-16, figs.

Schwartz, V. (2). Mitotische Spindelfasern bei *Paramecium bursaria*. Naturwissenschaften 43: 501, figs.

Schwartz, W. *see* Siebert, G.

Schwetz, J., Baumann, H. & Fort, M. Sur quelques parasites sanguicoles trouvés dans divers rats sauvages et domestiques de l'Est du Congo Belge. Ann. Soc. belge Med. trop. 36: 589-594.

Scolari, G. *see* Murat, R.

Scorza, J. V. & Dagert, B. y C. *Plasmodium pifanoi* nov. sp. parasite de *Ameiva ameiva* de Venezuela. Nov. Cient. Cont. Ocas. Mus. Hist. Nat. la Salle, ser. zool. 20: 3-7, figs.

Scorza, J. V., Dagert, B. C. & Arocha, L. I. Estudio sobre hemoparasitos de *Bufo marinus* L. da Venezuela. Mem. Inst. Osw. Cruz 54: 373-391, figs.

Seaman, G. R. Succinate metabolism of hemoflagellates. Exper. Parasit. 5: 138-148.

Seibold, E. & Seibold, I. Revision der Foraminiferen - Bearbeitung C. W. Gumbels (1862) aus dem Streiberger Schwamm-Mergeln (Oberfranken, Unterer Main). Neues Jb. Geol. Min. Paläont. 101 1955: 91-134, figs.

Seibold, I. *see* Seibold, E.

Selander, R. K. The occurrence of the parasite *Sarcocystis* in Mexican birds. Amer. Midl. Nat. 54 1955: 252-253.

Semikhatova, S. V. *see* Pistrak, R. M.

Senda, T. *see* Magara, M.

Seneca, H. & Bergendahl, E. Effect of oxysteroids on the inhibitory action of antibiotics on cultures of bacteria and *Endamoeba histolytica*. Antibiot. & Chemother. 6: 41-50.

Sergent, E. Sur des formes schizogoniques d'un type particulier présentées par *Plasmodium berghei*, agent d'un paludisme de rongeurs du Congo. C.R. Acad. Sci. Paris 242: 1941-1943.

Sergent, E. & Poncet, A. (1). Étude expérimentale du paludisme des rongeurs à *Plasmodium berghei*. IV. Résistance acquise. Arch. Inst. Pasteur Alger. 34: 1-51.

Sergent, E. & Poncet, A. (2). Étude expérimentelle du paludisme des rongeurs à *Plasmodium berghei*. V. Morphologie du parasite. Arch. Inst. Pasteur Alger. 34: 139-180, figs.

Sergent, E. & Poncet, A. (3). Étude expérimentale du paludisme des rongeurs à *Plasmodium berghei*. VI. Cycle évolutif schizogonique de la plasmodie. Arch. Inst. Pasteur Alger. 34: 287-345, figs.

Sergent, E. & Poncet, A. (4). Note sur la resistance innée à *Plasmodium berghei* de gerbilles de l'Afrique du nord. Arch. Inst. Pasteur. Alger. 34: 494-495.

Sergent, E. & Sergent, E. Historique du concept de l'immunité "relative" ou "prémunition", corrélatif d'une infection latente. Arch. Inst. Pasteur Alger 34: 52-89.

Seshachar, B. R. & Padmavathi, P. B. (1). Synchronous micronuclear divisions in multimicronucleate ciliates. Curr. Sci. 25: 281-282, figs.

Seshachar, B. R. & Padmavathi, P. B. (2). Chromatographic analysis of the asexual and conjugation stages of a ciliate *Blepharisma undulans* (Stein). Naturwissenschaften 43: 450-451.

Seshachar, B. R. & Padmavathi, P. B. (3). The cytology of a new species of *Spirostomum*. J. Protozool 3: 145-150.

Setlow, R. & Doyle, B. The action of ultraviolet light on paramecin and the chemical nature of paramecin. *Biochim. biophys. Acta* **22** : 15-20, figs.

Settingington, D. T. Oilfield fossils of the Paleocene System. [Foraminifera]. *Petroleum* (London) **13** 1950 : 66-67.

Shaffer, J. G. & Ansfield, J. The effect of rabbit antisera on the ability of *Entamoeba histolytica* to phagocytose red blood cells. *Amer. J. trop. Med. Hyg.* **5** : 53-6.

Sharma, G. K. *see* Ray, A. P.

Shchedrina, Z. G. (1). Foraminifera. (22-31). In P. V. Ushakov, *Atlas of the Invertebrates of the Far Eastern Seas of the U.S.S.R.* *Inst. Zool. Acad. Sci. Leningrad* 1955. [In Russian.]

Shchedrina, Z. G. (2). [Earlier faunal studies on the marine foraminifera in the U.S.S.R.] *Micropal. Stud. Akad. Nauk SSSR. Otdel, geol.-geog.* **1** : 23-36.

Shchedrina, Z. G. (3). [New species of Foraminifera from Far Eastern seas.] *Trav. Inst. zool. Acad. Sci. U.R.S.S.* **21** : 79-93, figs. [In Russian.]

Shepard, D. C. *see* Brandt, C. L.

Shephard, F. P. (1). Sand and gravel in deep-water deposits. [Foraminifera]. *World Oil* **132** 1951 : 61-68.

Shephard, F. P. (2). Methods of recognizing shallow-water marine environments (abstr.). *Bull. geol. Soc. Amer.* **64** 1953 : 1472-1473.

Sherman, H. J. *see* Beaver, P. C.

Shimizu, D. *see* Nakazawa, K.

Shulman, S. S. & Shulman-Albora, R. E. [Parasites of fishes of the White Sea.] *Moscow*, 1953, 200, 22 figs. [In Russian.]

Shulman-Albora, R. E. *see* Shulman, S. S.

Shumard, R. F. The coccidiostatic activity of soluble furacin against *Eimeria necatrix*. *J. Parasit.* **42** Suppl. : 24.

Shute, P. G. Special diagnosis of malaria. *Brit. med. J.* **2** : 1171-1172.

Shute, P. G. & Maryon, M. Is the malaria parasite within or upon the red blood corpuscles? With particular reference to the significance of stippling and other morphological changes observed in the host cells. *Trans. R. Soc. trop. Med. Hyg.* **50** : 139-149, figs.

Shute, P. G. *see* Field, J. W.

Shutskaya, E. K. [Stratigraphy of the lower Palaeogene of the Central pre-Caucasus, based on foraminifera.] *Trud. Inst. Geol. Nauk SSSR.* **164** *geol. ser.* **71** : 3-114, figs. [In Russian.]

Sibalié, S. *see* Nevenié, J.

Sidó, M. [Mikropaläontologische Daten aus den Miozän-Sedimenten von Salka (Ipolyzalka).] [Foraminifera.] *Földt. Kozl.* **85** 1955 : 211-214, fig. [German summary : 215.]

Siebert, G. & Schwartz, W. Untersuchungen über das Vorkommen von Mikroorganismen in entstehenden Sedimenten. *Arch. Hydrobiol.* **52** : 321-366, figs.

Siegel, R. W. Mating types in *Oxytricha* and the significance of mating type systems in ciliates. *Biol. Bull. Woods Hole* **110** : 352-357.

Sigal, J. Date of erection of the genus *Kilianina* Pfender. *Contr. Cush. Fdn. Foram. Res.* **7** : 25.

Sigal, J. *see* Busson, G.

Silva, P. C. Evaluation of the Protista as a group of living organisms. *Micropaleontology* **2** : 294-295.

Silva, R. *see* Neghme, A.

Silva Carmo, E. da *see* Botafago Gonçalves, N.

Silva Ramos, A. da & Albuquerque Lima, H. M. de. Nota sobre o achado ocasional do *Trypanosoma cruzi* em exames hemoscópicos. *Folia Clin. Biol. S. Paulo* **23** 1955 : 149-150.

Simitch, T., Petrovitch, Z. & Bordjochki, A. (1). *Citellus citellus* animal de choise pour l'étude biologique et isolement de *Toxoplasma gondii*. *Arch. Inst. Pasteur Alger* **34** : 93-99.

Simitch, T., Petrovitch, Z. & Bordjochki, A. (2). L'effect du sommeil hibernant sur *Toxoplasma gondii* chez des *Citellus citellus* infectes expérimentalement. Arch. Inst. Pasteur, Alger **34** : 355-359.

Simitch, T., Ramsine, S., Petrovitch, Z., Chibalitch, D. & Jankov, L. Action de l'eau chlorée, du chlorure de Chaux, de la chloramine et de l'iode sur la vitalité des kystes d'*Entamoeba dysenteriae*. Arch. Inst. Pasteur Alger. **34** : 205-217.

Simonsen, D. H. & Wagtendonk, W. J. van. The succinoxidase system of killer and sensitive stocks of *Paramecium aurelia* Variety 4. J. gen. Microbiol. **15** : 39-46.

Singer, I. & Trager, W. Coenzyme A changes - liver, spleen and kidney of rats with infections of *Plasmodium berghei*. Proc. Soc. exp. Biol. Med. **91** : 315-318.

Singh Grewal, M. (1). Life cycle of the rabbit trypanosome, *Trypanosoma nabiosi* Raillet, 1895. Trans. R. Soc. trop. Med. Hyg. **50** : 2.

Singh Grewal, M. (2). *Trypanosoma rangeli* Tejera 1920, in its vertebrate and invertebrate hosts. Trans. R. Soc. trop. Med. Hyg. **50** : 301-302.

Siqueira, A. F. see Magalhaes, A. E. A.

Sirsi, M. see Rama Rao, R.

Skaar, P. D. Past history and pattern of serotype transformation in *Paramecium aurelia*. Exp. Cell Res. **10** : 646-656.

Škreb-Guilcher, Y. (1). Quelques remarques sur un protozoaire cilié, le tentaculifère *Stylocometes digitalis* Stein. Bull. Micr. appl. **5** 1955 : 118-121, figs.

Škreb-Guilcher, Y. (2). Evolution de la respiration chez un Cilié Apostome : *Polyspira delagei* Mink. C.R. Soc. Biol. Paris **150** : 121-123.

Škreb-Guilcher, Y. (3). Influence de la ribonucléase sur la teneur en adénosintriphosphate (ATP) et la consommation d'oxygène des amibes vivantes. Biochim. biophys. Acta **17** 1955 : 599-600.

Smedley, S. R. A method of freeing cultures of *Entamoeba histolytica* from contamination with blastocystis. Trans. R. Soc. trop. Med. Hyg. **50** : 232-233.

Smirnova, L. I. [On phytoplankton from the north-western part of the Pacific.] C.R. Acad. Sci. U.R.S.S. **109** : 649-652, figs. [In Russian.]

Smith, C. S. see Gibson, C. L.

Smith, R. J. Geology of the Los Teques-Cua region, Venezuela. [Foraminifera.] Bull. geol. Soc. Amer. **64** 1953 : 41-64, figs.

Smither, Y. H. *Chitinosaccus*, a new foraminiferal genus of the Allogromiidae from Santa Lucia Bay, Zululand. S. Afr. J. Sci. **52** : 258-259, fig.

Smout, A. H. Three new Cretaceous genera of foraminifera related to the Ceratobuliminidae. Micropaleontology **2** : 335-348, figs.

Soberon y Parra, G. & Perez Reyes, R. The activity of primaquine-pyrimethamine (Daraprim) combinations against *Plasmodium relictum* in pigeons. J. Protozool. **3** : 43-45.

Soeiro, A. A malária em Moçambique com especial referencia à campanha antimalárica numa região predominantemente urbana (Lourenço Marques) e uma região predominantemente rural (Vale do Limpops). An. Inst. Med. trop. Lisbon **13** : 615-634, maps.

Soeiro, A., Pereira, M. & Pereira, A. A luta ante-malária em Lourenço Marques. An. Inst. Med. trop. Lisbon **13** : 635-669, figs. [English summary.]

Sokurenko, A. E. [Biological aspects of the epidemiology of giardiasis.] Trav. Inst. Zool. Parasit. Kirgiz Acad. Sci. **3** 1955 : 225-232.

Soler Durall, C. & Vilardell Viñas, F. Encuesta sanitaria sobre sensibilidad a la toxoplasmina en la población de Barcelona. Med. colon. **26** 1955 : 197-211, figs.

Solovyeva, M. N. see Chekhovich, V. D.

Somers, M. see Moir, R. J.

Sonneborn, T. M. (1). Some current problems of genetics in the light of investigations on *Chlamydomonas* and *Paramecium*. Cold Spr. Harb. Symp.-quart. Biol. **16** 1951 : 483-503.

Sonneborn, T. M. (2). An exceptional autogamous clone in variety 4 of *Paramecium aurelia* and its interpretation. J. Protozool. **3** Suppl. : 8.

Sonneborn, T. M. & Dippell, R. V. Giant *Paramencium aurelia* (?). J. Protozool. **3** Suppl. : 9.

Sonneborn, T. M., Schneller, M. V. & Craig, M. F. The basis of variation in phenotype of gene-controlled traits in heterozygotes of *Paramecium aurelia*. J. Protozool. **3** Suppl. : 8.

Sorouri, P. The nuclear cytology of *Leishmania tropica*. J. Morph. **97** 1955 : 393-413, figs.

Sotero Cabral, A. Notas sobre o *Pneumocystis carinii*. Raridade atual deste parasito em animais de laboratorio. Mem. Inst. Osw. Cruz **54** : 87-91, fig.

Sousa e Silva, E. de (1). "Red water" por *Exuviella baltica* Lohm. com simultânea mortandade de peixes nas águas litorais de Angola. An. Ita. Ino. Ultramar, Lisbon **8** : 73-84, figs.

Sousa e Silva, E. de (2). Contribution à l'étude du microplancton de Dakar et des régions maritimes voisines. Bull. Inst. franç. Afr. N. **18A** : 335-371, figs.

Sowah, E. M. A. see Colbourne, M. J.

Speigler, W. see Hellbrugge, T.

Sperrazza, J. T. Distribution of the Foraminifera : in N. D. NEWELL Geological reconnaissance of Raroia (Kon Tiki) Atoll, Tuamotu Archipelago. Bull. Amer. Mus. nat. Hist. **109** : 363-369.

Splitter, E. J., Twichaas, M. J. & Castro, E. R. Anaplasmosis in sheep in the United States. J. Amer. vet. med. Ass. **127** 1955 : 244-245.

Spooner, D. F. see Fulton, J. D.

Squire, F. A. see Edwards, E. E.

Šrámek-Hušek, R. (1). [Vorläufiges Verzeichnis der in Böhmen, Mähren und Schlesien bis zum Jahre 1950 gefundenen Ciliatenarten.] Čas. nár. Mus. **122** 1953 : 76-88. [German summary.]

Šrámek-Hušek, R. (2). Zur biologischen Charakteristik der höheren Saprobitätsstufen. Arch. Hydrobiol. **51** : 376-390.

Stabler, R. M. Furazolidone as a therapeutic agent in pigeon trichomoniasis. J. Parasit. **42**, Suppl. : 23.

Stainforth, R. M. (1). News-North-Central United States. Micro-paleontology **2** : 103-104.

Stainforth, R. M. (2). News-United States-Rocky Mountain region. Micropaleontology **2** : 413-414.

Stainforth, R. M. & Rüegg, W. Mid-Oligocene transgression in southern Peru. [Foraminifera]. Bull. Amer. Ass. Petrol. Geol. **37** 1953 : 568-569.

Stam, A. B. & Thiel, P. H. van. The amoebicidal action *in vitro* of 1,2,3,4-tetrahydro-9-fluorenone (T. H. F.). Docum. Med. geogr. trop. **8** : 171-174.

Starodubtzeva, A. S. see Chekhovich, V. D.

Starzyk, J. see Dolezal, M.

Stauber, L. A. see Franchino, E. M.

Stefani, R. (1). L'autoinfestazione per ferita di una gregarina parassita dell'embiottero *Haploembia solieri* Ramb. R.C. Accad. Lincei **21** : 124-127.

Stefani, R. (2). Un ciclo endogeno celomatico susseguente al normale ciclo biologica in *Diplocystis clerici* Leg. (Eugregarina-Diplocystidae). Riv. Parassit. **17** : 143-164, figs.

Stefani, T. de. Su alcune manifestazioni di idrocarburi in provincia di Palermo e descrizione di Foraminiferi nuovi. Plinia **3** (4) 1950 [1951] : 1-12, figs.

Steinart, M. see Boné, G. J.

Steinart, M. & Boné, G. J. Induced change from culture form, to blood-stream form in *Trypanosoma mega*. Nature, Lond. **178** : 362, fig.

Stephenson, H. K. *see* Ladd, H. S.

Sterbenz, F. J. (1). The axenic culture of *Paramecium caudatum*. J. Protozool. 3 Suppl. : 13.

Sterbenz, F. J. (2). A demonstration of the need for thioctic acid for the growth of *Paramecium caudatum* in axenic culture. J. Protozool. 3 Suppl. : 14.

Sterbenz, F. J. & Lilly, D. M. Factors influencing growth in Protozoa. I. Factors influencing abnormal growth in Suctorian Protozoa. Trans. N.Y. Acad. Sci. 18 : 522-530.

Stevens, G. R. *see* Barwick, R. E.

Stone, S. W. Some ecologic data relating to pelagic foraminifera. Micropaleontology 2 : 361-370, figs.

Stout, J. D. (1). *Saprophilus muscorum* Kahl, a tetrahymenal ciliate. J. Protozool. 3 : 28-30, figs.

Stout, J. D. (2). Excystment of *Frontonia depressa* (Stokes) Penard. J. Protozool. 3 : 31-32, fig.

Streble, H. Gregarinen. Mikrokosmos 45 : 224-227, figs.

Strelkov, A. A. Heterotricha (39-44). In P. V. Ushakov, Atlas of the Invertebrates of the Far Eastern Seas of the U.S.S.R. Inst. Zool. Acad. Sci. Leningrad 1955. [In Russian.]

Strickland, J. W. *see* Wengerd, S. A.

Strome, C. P. *see* Lawless, D. K.

Strong, M. W. Marine iron bacteria as rock-forming organisms. [Protozoa]. Advanc. Sci. 12 : 582-5.

Strümer, W. Zur Technik an Graptolithen und Radiolarien in Main-Kiesel-schiefern. Senckenbergiana 32 1952 : 351-355, figs.

Stubbs, R. K. *see* Volini, M.

Stukova, K. V. *see* Chekhovich, V. D.

Stunz, D. I. *see* Harwood, P. D.

Suetomi, H. *see* Minato, M.

Sukharevich, P. M. [On the stratigraphy and lithology of the Jurassic deposits of the south-western part

of the adjacent Black Sea Depression.] [Foraminifera.] Bull. Acad. Sci. U.S.S.R. geol. 3 : 72-80. [In Russian.]

Sullwold, H. H. jr. Geology of, West Edison oil field, Kern County, California. [Foraminifera.] Bull. Amer. Ass. Petrol. Geol. 37 1953 : 797-820, figs.

Supperer, R. *see* Bôhm, L. K.

Sussman, M. On the relation between growth and morphogenesis in the slime mold *Dictyostelium discoideum*. Biol. Bull. Woods Hole 110 : 91-95, figs.

Sussman, M. *see* Bradley, S. G.

Suyama, K. *see* Minato, M.

Suzuki, Y. *see* Minato, M.

Svanbaev, S. K. [Materials on the fauna of coccidia in wild mammals of Western Kazakstan.] Trans. Inst. Zool., Acad. Sci. Kazakh SSR. 5 : 180-191 figs. [In Russian.]

Svanidze, D. P. [History of the study of amoebiasis and its control in U.S.S.R.] Moscow, 1955 : 132 pp. figs. [In Russian.]

Svensson, R. (1). Intestinal parasites in Himalayan Regions. Amer. J. Hyg. 64 : 158-169.

Svensson, R. (2). Intestinal parasites in Kathmandu, Nepal. J. Parasit. 42 : 94-95.

Swader, L. L. & Baker, E. G. S. Some relationships between individual size and growth conditions in *Tetrahymena pyriformis*. J. Protozool. 3 Suppl. : 4.

Swellengrebel, N. H. Parasitology, a chapter of ecology. Docum. Med. geogr. trop. 8 : 274-280.

Swerdlow, M. A. *see* Burrows, R. B.

Switzer, G. S. & Boucot, A. J. Mineralogy of some microfossils (abstr.). Bull. geol. Soc. Amer. 64 1953 : 1481-2.

Szenk, B. J. News-Venezuela. Micropaleontology 2 : 414-415.

Tahmisian, T. N. *see* Beams, H. W.

Tai, Y. (1). Miocene foraminifera from the Syôbara Basin, Hiroshima Prefecture. J. Sci. Hiroshima Univ. C. 1 1953 : 1-9, figs.

Tai, Y. (2). Miocene smaller foraminifera from the Tsuyama Basin, Okayama Prefecture, Japan. J. Sci. Hiroshima Univ. **C1** 1954 : 1-24, figs.

Tai, Y. (3). Micropaleontological study of the Furue formation. Part 3 of Geology of the Tertiary system in Shimana Peninsula, Japan. [Foraminifera.] J. geol. Soc. Japan **61** 1955 : 407-419, figs.

Tairov, Ch. A. [On two new genera of Foraminifera belonging to the family Verneulinidae and Ammodiscidae.] C.R. Acad. Sci. Azerbaid. **12** : 113-116, figs. [In Russian.]

Tairov, Ch. A. *see* Khalilov, D. M.

Takagi, K. Responses of adrenal cortex under the experimental parasitic invasion. Gunma J. med. Sci. **5** : 190-208, figs.

Takasawa, M. *see* Ijiri, S.

Takayanagi, Y. Distribution of the recent Foraminifera from adjacent seas of Japan (I). Rec. oceanogr Wks. Japan N.S. **1** 1953 : 78-85.

Takeda, Y. *see* Minato, M.

Taliafero, M. O. *see* Mackie, T. T.

Taltasse, P. Recherches géologiques et hydrogéologique dans le Bassin lacustre de Les Meknès. [Foraminifera.] Notes Serv. Min. Maroc. **115** 1953 : 46-88.

Tappan, H. *see* Loeblich, A. R. jr.

Tarlatzis, C., Panetsos, A. & Dragonas, P. Furacin in the treatment of ovine and caprine coccidiosis. J. Amer. vet. med. Ass. **126** 1955 : 391-392.

Tartar, V. (1). Equivalence of macronuclear nodes in *Stentor coeruleus* and *Condyllostoma magnum*. J. Protozool. **3** Suppl. : 9.

Tartar, V. (2). Morphogenetic determination of the oral primordium of *Stentor coeruleus*. J. Protozool. **3** Suppl. : 9.

Tartar, V. (3). Grafting experiments concerning primordium formation in *Stentor coeruleus*. J. exp. Zool. **131** : 75-122, figs.

Tatum, A. L. *see* Hughes, F. W.

Taub, J. Effect of normal human serum on *Leishmania*. Bull. res. Counc. Israel. **6E** : 55-57.

Tavares, B. M. *see* Botafogo Gonçalves, N.

Tayeb, G. *see* Delga, M. D.

Taylor, A. E. R. On the influence of ethionine on infections of *Plasmodium berghei* in white mice. Trans. R. Soc. trop. Med. Hyg. **50** : 418.

Taylor, A. E. R., Terry, R. J. & Godfrey, D. G. The action of some trypanocidal and antimalarial compounds on *Babesia rodhaini* (Piroplasmidae). Brit. J. Pharmacol. **11** : 71.

Taylor, D. J. *see* Greenberg, J.

Taylor, D. J., Greenberg, J., Josephson, E. S. & Nadel, E. M. Histochemical sudanophilia and cholesterol concentration in the adrenal glands of chicks parasitized with *Plasmodium gallinaceum*. Acta Endocrinology **22** : 173-178, figs.

Taylor, M. [see also Sister Monica.] Recent advances in *Amoeba* lore. School Sci. Rev. **34** 1952 : 98-108, figs.

Tchakhotine, S. T. & Benedicenti, A. Azione di alcuni farmaci sugli esseri unicellulari. R.C. Accad. Lincei **20** : 19-23.

Tempere, C. *see* Magné, J.

Terriere, R. T. *see* Bergenback, R. E.

Terry, R. J. Transmission of antimalarial immunity (*Plasmodium berghei*) from mother rats to their young during lactation. Trans. R. Soc. trop. Med. Hyg. **50** : 41-46, figs.

Terry, R. J. *see* Taylor, A. E. R.

Terzian, L. A. The comparative morphological and physiological effects of various drugs on the sporogonous cycle of *Plasmodium gallinaceum* in *Aedes aegypti*. J. cell. comp. Physiol. **46** 1955 : 279-290, figs.

Tewari, B. S. The genus *Spirocyclus* from Kutch, Western India. Curr. Sci. **25** : 319-320, figs.

Thalmann, H. E. (1). Practical value of some microfossils. Bull. amer. Ass. Petrol. Geol. **39** 1955 : 1196-1201.

Thalmann, H. E. (2). News—United States West Coast. Micro-paleontology **2** : 199-200.

Thalmann, H. E. see Laiming, B.

Theleznov, V. M. see Chekhovich, V. D.

Thélin, L. Deux Myxosporidies parasites de la Perche du lac Léman. Rev. suisse Zool. **63** : 163-181, figs.

Théodoridès, J. (1). Contribution à l'étude des parasites et phoretiques de Coléoptères terrestres. Vie et Milieu, 1955 [received 1956] Suppl. no. 4 : 310 pp., figs.

Théodoridès, J. (2). A propos des grégaires d'Hyménoptères *Apoidea*. Ann. Parasit. hum. comp. **31** : 315-316.

Théodoridès, J. & Ormières, R. Sur un cas teratologique chez *Didymophyes guttiformis* Cordua et remarques sur la position systématique du genre *Didymophyes* Stein (Eugregarina, Didymophyidae). Ann. Parasit. hum. comp. **31** : 177-181, fig.

Thiel, P. H. van (1). Constant morphological feature in the trophozoite stage of *Entamoeba histolytica*. Trans. R. Soc. trop. Med. Hyg. **50** : 615.

Thiel, P. H. van (2). The persistence of *Toxoplasma* strains in albino rats. Leeuwenhoek ned. Tijdschr. **22** : 243-247.

Thiel, P. H. van (3). The taxonomic status of *Toxoplasma gondii*. Leeuwenhoek ned. Tijdschr. **22** : 248-256, figs.

Thiel, P. H. van & Waaij, D. van der. The significance of pseudocysts in the oral infection of man and animals with *Toxoplasma gondii*. Docum. Med. geogr. trop. **8** : 392-396.

Thiel, P. H. van see Stam, A. B.

Thiermann, E. & Náquira, F. Contribución al diagnóstico parasitológico de la toxoplasmosis. Demostración del *Toxoplasma gondii* en 5 casos. Bol. chileno Parasit. **11** : 13-16.

Thomas, A. N. Facies variations in the Asmari limestone. Rept. 18th inter. Congr. Geol. Gt. Britain 1948. Sect. J. **10** [1952] : 74-82, fig.

Thomas, R. & Mabille, J. Rhizopodes thécamoebiens observés dans le Département de l'Aisne. Cahiers Nat. N.S. **12** : 26-32, figs.

Thomas, R. see Bonnet, L.

Thomas, W. E., Davey, T. H. & Potts, W. H. Report of the commission of inquiry on human and animal trypanosomiasis in Southern Rhodesia. (C. Fed. 24). Salisbury 1955. [Issued 1956.]

Thompson, J. C. Observations on the buccal ciliature of *Tetrahymena*. J. Protozool. **3** Suppl. : 4.

Thompson, P. E. The evaluation of antiamebic drugs in experimental animals. Antibiot. Med. **1** 1955 : 603-610.

Thompson, P. E., McCarthy, D. A., Bayles, H., Reinertson, J. W. & Cook, A. R. Comparative effects of various antibiotics against *Entamoeba histolytica* in vitro and in experimental animals. Antibiot. & Chemother. **6** : 337-350.

Thompson, P. E., Reinertson, J. W., McCarthy, D. M., Bayles, A. & Cook, A. R. Biallilamicol, a new amebicide : Chemotherapeutic studies in intestinal and hepatic amebiasis in animals. Antibiot. & Chemother. **5** 1955 : 433-444.

Thoms, R. K. see Eugene, E.

Thorpe, W. H. Learning and instinct in animals. London (Methuen) 1956, pp. viii+493, figs.

Thursch, H. Die Gliederung des Unteren Rupeltons im Mainzer Becken auf Grund seiner Foraminiferen-Fauna. Notizbl. hess. Landesant. Bodenforsch. **84** : 216-231, figs.

Tijn, B. van see Wagtendonk, W. J. van.

Tintant, H. & Larcher, C. Nouvelles observations sur l'Oxfordien aux environs de Dijon. Bull. sci. Bourgoyne **16** : 165-171, fig.

Tiratsoo, E. N. Petroleum Geology. McGraw Hill, New York, 1952 : 1-449, figs. [Foraminifera.]

Tobie, E. J. & Highman, B. Influence of the amino nucleoside of puromycin on the course and pathology of trypanosome infections in rabbits and mice. *Amer. J. trop. Med. Hyg.* **5** : 504-515, figs.

Todd, I. N. *see* Barwick, R. E.

Todd, R. (1). Recent literature. *Contr. Cush. Fdn. Foram. Res.* **7** : 31-33.

Todd, R. (2). Recent literature. *Contr. Cush. Fdn. Foram. Res.* **7** : 67-68.

Todd, R. (3). Recent literature. *Contr. Cush. Fdn. Foram. Res.* **7** : 102-104.

Todd, R. (4). Recent literature on the foraminifera. *Contr. Cush. Fdn. Foram. Res.* **7** : 152-153.

Todd, R. (5). Smaller foraminifera [Geology of Saipan, Mariana Islands]. *U.S. Geol. Surv. Prof. Paper* **280-H** : 265-320, figs.

Todd, R. *see* Cushman, J. A.

Todorović, K. Kala azar und Hautleishmaniosen in Jugoslawien. *Zbl. Bakt.* **167** : 390-395.

Tokay, M. *see* McCallien, W. J.

Tomić-Džodžo, R. Microfauna from well-drilling CEI—Šumecani. [Foraminifera.] *Zborn. Radova geol. Inst. Beograd* **7** 1954 : 201-227, figs.

Toomey, D. F. Addendum to a Bibliography of the Family Fusulinidae. *J. Paleont.* **30** : 1360-1366.

Toriyama, R. Geology of Akiyoshi. II. Stratigraphy of the non-calcareous group developed around the Akiyoshi Limestone group. *Mem. Fac. Sci. Kyushu Univ.* **D5** 1954 : 1-46, figs.

Torrente, A. (1). Contributo alla conoscenza della stratigrafia del Calabrianiano e del Pliocene Superiore e medio della Pianura Pontina. [Foraminifera.] *Boll. Uff. geol. Ital.* **74** 1953 : 419-430.

Torrente, A. (2). Studio di una microfauna miocenica Racchiusa in una formazione tufacea della Sardegna sud-occidentale. *Boll. Uff. geol. Ital.* **75** 1954 : 451-466, figs.

Torrente, A. *see* Malatesta, A.

Torricelli, G. Oberkreideforaminiferen im Bündnerschiefer von Rashvella bei Strada (Unterengadin). *Jber. naturf. Ges. Graubünden N.F.* **86** : 77-79, figs.

Torroella, J. *see* Varela, G.

Townsend, R. C. *see* Ladd, H. S.

Trager, W. (1). The intracellular position of malarial parasites. *Trans. R. Soc. trop. Med. Hyg.* **50** : 419-420.

Trager, W. (2). Nutritional requirements of the leptomonads of a hemoflagellate from lizards (*Leishmania tarentolae*). *J. Protozool.* **3** Suppl. : 6.

Trager, W. *see* Rudzinska, M. A.

Trager, W. *see* Singer, I.

Travis, R. B. La Brea-Pariñas oilfield, northwestern Peru. [Foraminifera.] *Bull. amer. Ass. Petrol. Geol.* **37** 1953 : 2093-2118, figs.

Trinção, C., Nogueira, A. R. & Almeida Franco, L. T. de. Acção da puromicina (estilomicina) sobre do culturas "in vitro" do *Trypanosoma gambiense*. *Ann. Inst. Med. trop., Lisboa* **13** : 429-431. [English summary.]

Trinção, C., Nogueira, A. & Franco, A. Puromycin studies in experimental *Trypanosoma gambiense* and *Trypanosoma rhodesiense* infections in mice. *Antibiot. & Chemother.* **5** 1955 : 505-507.

Trinção, C., Nogueira, H. A. R. & Franco, T. A. Quelques essais sur l'activité thérapeutique de la stilomycine (ex "achromycine" et "puromycine") dans la trypanosomiase expérimentale chez la souris (*T. gambiense* et *rhodesiense*). *C.R. Soc. Biol. Paris* **149** 1955 : 1815-1817.

Troelsen, J. C. Studies on Ceratobuliminidae (Foraminifera). *Medd. dansk geol. Foren.* **12** 1954 : 448-472, figs.

Tschopp, H. J. Oil explorations in the Oriente of Ecuador 1938-1950. [Foraminifera.] *Bull. amer. Ass. Petrol. Geol.* **37** 1953 : 2303-2347.

Tuffrau, M. Note sur *Legendrea pes pelicani* Penard 1922. Bull. Soc. zool. Fr. **81** : 72-74, figs.

Tunell, G. *see* Laiming, B.

Turnovsky, K. Notiz uber Penetroliden-vorkommen im Ostanatolien. Bull. geol. Soc. Turkey **6** (1) 1955 : 160-161, fig.

Tuzet, O. & Ormières, R. Sur quelques grégaires de la région de Sète. Ann. Parasit. hum. comp. **31** : 317-330, figs.

Tuzet, O. & Vogeli, M. (1). Deuxième contribution à l'étude des Monocystidae parasites de Oligochètes africains *Millsonia anomala* Omodeo 1954 et *Dichogaster baeri* Sciacchitano Oligochètes de Gagnoa (A.O.F.). Bull. Inst. franç. Afr. N. **18A** : 410-417, figs.

Tuzet, O. & Vogeli, M. (2). *Dirhynchocystis eudrilii* n. sp., et *Monocystis eudrilii* n. sp., grégaires parasites d'*Eudrilus eugeniae* Kinberg, oligochète de Côte d'Ivoire et leurs parasites. Bull. Inst. franç. Afr. N. **18** : 720-731, figs.

Twichaas, M. J. *see* Splitter, E. J.

Uéno, M. [Zooplankton of the Ozegahara Moor waters]. Scient. Res. Ozegahara Moor **1954** : 690-701. [English summary : 700].

Uhlenhuth, P. & Schoenherr, K. E. Untersuchungen über die Übertragungsmöglichkeiten verschieden trichomonadenarten auf kleine Versuchstiere. Z. Immun. Forsch. **112** 1955 : 48-56.

Ujié, H. (1). *Pseudocibicoides*, n. gen., from the sea coast of Katase, Kanagawa Prefecture, Japan. Sci. Rep. Tokyo Kyoiku Daig. **4C** : 263-265, fig.

Ujié, H. (2). The internal structure of some Elphidiidae. Sci. Rep. Tokyo Kyoiku Daig. **4C** : 267-282, figs.

Umrath, K. Elektrische Messungen und Reizversuche an *Amoeba proteus*. Protoplasma **47** : 347-358.

Urahe, K. [Intraperitoneal and subcutaneous injection of mice and rats with *Balantidium coli* with special reference to the effect of gastric

mucin.] Kiseichu-gaku Zasshi **5** : 65-72. [Japanese with English summary.]

Urmanov, H. H. *see* Chekhovich, V. D.

Vakheniya, E. K. [On the stratigraphical position of the Tarkhamsk horizon in Western Gruzia.] C.R. Acad. Sci. U.R.S.S. **106** : 701-702. [In Russian.]

Valensi, L. Sur quelques micro-organismes des silex crétacés du Magdalénien de Saint-Amand (Cher.) Bull. Soc. géol. Fr. **5** 1955 : 35-40, figs.

Valenti, I. Studio dei foraminiferi di due giacimenti pliocenici della Provincia di Imperia. Mem. Accad. patavina Cl. Sci. math. e nat. **67** 1954-5 [1955] : 1-6.

Varela, G., Roch, E. & Palencia, L. Encuesta serologica de toxoplasmosis practicoda entre los indios Guambias de Colombia. Rev. Inst. Salubr. Enferm. trop. **16** : 51-55, map.

Varela, G., Roch, E. & Torroella, J. Estudio de toxoplasmosis ocular. Rev. Inst. Salubr. Enferm. trop., Méx. **16** : 17-19. [English summary.]

Varela, G., Vasquez, A. & Torroella, J. Probable existencia de la dietilamida del acido d-lisergico en la infeccion por *Toxoplasma gondii*. Rev. Inst. Salubr. Enferm. trop. Méx. **16** : 29-32, fig. [English summary.]

Vargues, R. & Filliatre, M. le. La fiche reticulo-endothéliale de Sandor dans les trypanosomoses expérimentales à *Trypanosoma equiperdum*. Bull. Soc. Path. exot. **49** : 713-724.

Vašiček, M. [Changes in the ratio of sinistral and dextral individuals of the foraminifer *Globorotalia scitula* (Brady), and their use in stratigraphy.] Sborn. geol. Úst. čsl. **20** 1953 : 345-420, fig. [Russian and English summaries.]

Vaughn, C. M. *see* Mackie, J. T.

Vávra, J. (1). The action of streptomycin on the flagellate *Euglena gracilis* Klebs. Folia Biol., Praha **2** : 351-355.

Vávra, J. (2). Ist der Protoreceptor eine unabhängige Organelle der Eugleniden? Arch. Mikrobiol. 25 : 223-225.

Vazquez, A. see Varela, G.

Veber, J. [*Plistophora aporiae* n. sp., ein parasit des baumweisslinges *Aporia crataegi*.] Českoslov. Parasit. 3 : 181-185 figs. [Czech with German summary.]

Veillon, M. & Vigneaux, M. Observations paléontologiques sur l'Eocène supérieur girondin. [Foraminifera.] C.R. Soc. géol. Fr. 16 1954 : 414-415.

Veljković-Zajec, K. [A contribution to the knowledge of microfauna from the village of Zubetinac (East Serbia).] Zborn. Radova geol. Inst. Beograd 7 1954 : 247-257, figs. [English summary : 255.]

Verain, A. & Verain, A. (1). Influence des ultrasons sur *Plasmodium berghei*. C.R. Soc. Biol. Paris 150 : 1189-1190.

Verain, A. & Verain, A. (2). Premiers essais d'enregistrement de la température au cours de l'affection due au *Plasmodium berghei*. C.R. Soc. Biol., Paris 149 1955 : 2174-2176.

Verain, A. & Verain, A. & Filliartre, M. Le. Influence des ultrasons sur *Trypanosoma equiperdum*. C.R. Soc. Biol. Paris 150 : 1529-1530.

Verëiskaya, K.-N. see Pistrak, R. M.

Verheye, H. Contribution à l'étude des infections à *Trichomonas vaginalis* en rapport avec le pH vaginal chez la congolaise. Ann. Soc. belge Med. trop. 36 : 499-514.

Vermeil, C. (1). Contribution à l'étude immunologique des toxoplasma. Arch. Inst. Pasteur Tunis 33 : 181-187.

Vermeil, C. (2). Chronique des leishmanioses en Tunisie. Arch. Inst. Pasteur, Tunis 33 : 195-201, fig.

Vermeil, C. (3). Limites de l'association symbiotique *Toxoplasma gondii*, ultravirus de la chorioménigite lymphocytaire. Bull. Soc. Path. exot. 49 : 35-39.

Verniory, R. (1). La création du genre *Lombardia* Bronnimann est-elle justifiée? Arch. Sci. Genève 9 : 85-92, figs.

Verniory, R. (2). Observations sur le Jurassique supérieur et le Crétacé inférieur des Monts Euganéens, Padova (Saccocomas et Tintinnoidiens). Arch. Sci. Genève 9 : 123-126.

Viaud, G. & Bonaventure, N. Recherches expérimentales sur la galvanotropisme des paramécies. Bull. biol. 90 : 287-319, figs.

Vigneaux, M. (1). L'anomalie tectonique profonde de Carcans (Gironde). [Foraminifera]. C.R. Acad. Sci. Paris 236 1953 : 950-951.

Vigneaux, M. (2). Découverte d'un nouvel accident anticlinal aux environs de Bordeaux. [Foraminifera]. C.R. Acad. Sci. Paris 238 1954 : 2010-2012.

Vigneaux, M. see Veillon, M.

Vilardell, F. see Durall, C. S.

Vilardell Vinàs, F. see Soler Durall, C.

Villa, F. (1). Sull' esistenza del Pliocene sottosuolo di Venegono inferiore (Varese). Riv. ital. Paleont. 61 1955 : 27-34, fig.

Villa, F. (2). Studi stratigrafici sul terziario subalpino lombardo. Nota IV. Gli affioramenti terziari a sud del lago di Varese. [Foraminifera.] Riv. ital. Paleont. 61 1955 : 67-92, figs.

Villiers, A. see Dekeyser, P. L.

Vinall, H. F. see Porter, A.

Vincent, P. see Neal, R. A.

Vistelius, A. B. & Miklukho-Maklai, A. D. [The middle part of the productive layer of the Apsheron peninsula and the problem of its genesis.] [Foraminifera.] Bull. Acad. Sci. U.R.S.S. geol. 4 : 77-94. [In Russian.]

Viswanatha, T. & Liener, J. E. Isolation and properties of a proteïnase from *Tetrahymena pyriformis* W. Arch. Biochem. & Biophys. 61 : 410-421, figs.

Vivier, É. (1). Types sexuels chez *Paramecium caudatum*; obtention de souches non conjugantes aux dépens de souches conjugantes. C.R. Acad. Sci. Paris **242** : 3118-3121.

Vivier, É. (2). Induction de la conjugaison dans des souches non conjugantes de *Paramecium caudatum*. C.R. Acad. Sci. Paris **243** : 179-181.

Vogel, F. S. see Fremming, B. D.

Vogeli, M. see Tuzet, O.

Vojtěchovska, M. see Petrù, M.

Volini, M., Stubbs, R. K. & Ercoli, N. Trypanocidal, antibacterial, and antifungal effectiveness of monothiuronium derivatives. Antibiot. & Chemother. **6** : 603-606.

Voorthuysen, J. H. van (1). The quantitative distribution of the Holocene foraminifera in the N.W. Polder. Proc. Third. Int. Congr. Sediment. Groningen-Wageningen Nethlds. **1951** : 267-272, figs.

Voorthuysen, J. H. van (2). *Lagen*-X again. Micropaleontology **2** : 91, figs.

Voorthuysen, J. H. van (3). News-Benelux. Micropaleontology **2** : 93-95.

Voorthuysen, J. H. van (4). News-Benelux. Micropaleontology **2** : 408-410.

Vörösváry, B. Die Ciliaten des "Kalános"-Baches. Ann. Biol. Univ. szeged **1** 1950 : 343-387, figs.

Vuillet, J. see Sautet, J.

Waaij, D. van der see Thiel, P. H. van.

Wada, M. see Ijiri, S.

Wagtendonk, W. J. van, Tijn, B. van, Litman, R., Reisner, A. & Young, M. L. The surface antigens of *Paramecium aurelia*. J. gen. Microbiol. **15** : 617-619.

Wagtendonk, W. J. van see Miller, C. A.

Wagtendonk, W. J. van see Simonsen, D. H.

Walker, L. M. see Austin, M. L.

Wall, J. H. see Mellon, G. B.

Wallace, F. G. Cultivation of *Trypanosoma ranarum* on a liquid medium. J. Protozool. **3** : 47-49.

Wallace, W. S. see Hewitt, R. I.

Walters, J. H. & Bruce-Chwatt, L. J. Sick-cell anaemia and falciparum malaria. Trans. R. Soc. trop. Med. Hyg. **50** : 511-514.

Walton, B. C., Bauman, P. M. & Herman, C. M. *Trypanosoma cruzi* in raccoons from Maryland. J. Parasit. **42** Suppl. : 20.

Ware, R. E. see Richey, D. J.

Warren, J. see Cutchins, E. C.

Wasserman, L., Gavrilita, L., Mărculescu, T., Chipail, A. & Pătrăscanu, V. Contributions anatomo-cliniques à l'étude de la toxoplasmosse congénitale humaine. Stud. Cercet. Inframicrobiol. Acad. Repub. rom. **7** : 203-219, figs. [French summary.]

Watkins, T. I. & Woolfe, G. Prophylaxis of trypanosome infections in cattle. Nature, Lond. **178** : 368.

Watrach, A. M. see Levine, N. D.

Webb, J. E. & Elgood, J. H. Animal classification, Ibadan Univ. Press, 1955, ix+1-161, figs.

Webb, M. G. An ecological study of brackish-water ciliates. J. Anim. Ecol. **25** : 148-169.

Weigand, W. Kritische Beobachtungen zum Toxoplasma-Antigen nach Westphal. Z. Immun. Forsch. **112** 1955 : 220-227.

Weinbach, E. C. see Agosin, M.

Weiser, J. (1). [Parasitologie in Dienste der Landwirtschaft.] Wiad. Parazyt. **1** 1955 : 186-191. [German summary.]

Weiser, J. (2). [*Nosema steinhausi* n. sp., eine neue mikrosporidie aus *Tyrophagus noxius* (Acarina, Tyroglyphidae).] Českoslov. Parasit. **3** : 187-192, figs. [Czech with German summary.]

Weiser, J. (3). [Studien über mikrosporidien in süßwasserinsekten II.] Českoslov. Parasit. **3** : 193-202, figs. [Czech with German summary.]

Weiser, J. (4). [Zur kenntniss der krankheiten der schädlinge der eiche in Südmähren.] Českoslov. Parasit. 3 : 203-209, figs. [Czech with German summary.]

Weiss, C. *see* Appuhn, E.

Weissenfels, N. *see* Scholtyseck, E.

Weisz, P. B. (1). Chemical inhibition of regeneration in *Stentor coeruleus*. J. cell. comp. Physiol. 46 1955 : 517-527, fig.

Weisz, P. B. (2). Experiments on the initiation of division in *Stentor coeruleus*. J. exp. Zool. 131 : 137-162, figs.

Weld, J. T. & Kean, B. H. Experimental ocular trichomoniasis. Amer. J. Path. 32 : 1135-1145, figs.

Weller, J. M. Protista : non-plants, non-animals ? J. Paleont. 29 1955 : 707-710.

Wells, W. H. A cursory survey of human intestinal parasites in the nomadic people of Southern Turkey. J. Parasit. 42 : 535.

Wells, W. H. & Blagg, W. A survey of human intestinal parasites in a fishing village of Northern Egypt. Amer. J. trop. Med. Hyg. 5 : 266-268.

Wengerd, S. A. & Strickland, J. W. Pennsylvanian stratigraphy of Paradox Salt Basin, Four Corners region, Colorado and Utah. Bull. Amer. Ass. Petrol. Geol. 38 1954 : 2157-2199, figs.

Wenrich, D. H. Some American pioneers in Protozoology. J. Protozool. 3 : 1-7.

Wenzel, F. Über eine Artentstehung innerhalb der Ciliatengattung *Spathidium*. Verh. dtsh. zool. Ges. 19 : 215.

Werner, H. (1). Zur frage des placentaren übergangs von *Plasmodium berghei* (congenitale Malaria). Z. Tropenmed. u. Parasit. 7 : 64-79, figs.

Werner, H. (2). Über den einfluss der *Plasmodium berghei* infektion auf placentation und embryonalentwicklung bei Swiss-mäusen und goldhamster und deren neugeborenen. Z. Tropenmed. u. Parasit. 7 : 177-197, figs.

Wery, P. La theileriose au Congo Belge et au Ruanda-Urundi. Bull. epizoot. Dis. Afr. 2 1954 : 47.

Wetzel, O. Resumé of microfossils from Upper Cretaceous flints and chalks of Europe. J. Paleont. 27 1953 : 800-804, figs.

Wetzel, W. (1). Die Dan-Scholle vom Katharinenhof (Fehmarn) und ihr Gehalt an Planktonen. Neues Jb. Geol. Paläont. B. 1 1955 : 30-46, figs.

Wetzel, W. (2). Bildungsstätte und Entstehung der grünberindeten Flintgerölle. [Foraminifera.] Schr. naturw. Ver. Schl.-Holst. 28 : 65-68, figs.

Weynschenck, R. (1). Some rare Jurassic index foraminifera. Micro-paleontology 2 : 283-286, figs.

Weynschenck, R. (2). *Aulotortus*, a new genus of Foraminifera from the Jurassic of Tyrol, Austria. Contr. Cush. Fdn. Foram. Res. 7 : 26-28, figs.

Whitby, J. L. *see* Brown, J. A. H.

Wichmann, R. W. & Bankowski, R. A. A report on *Trichomonas gallinarum* infection in Chukar partridges (*Alectoris graeca*). Cornell Vet. 46 : 367-369.

Widmayer, D. *see* Austin, M. L.

Wigand, R. (1). A complement-fixation reaction with *Haemobartonella muris* and *Eperythrozoon coccoides*. Nature, Lond. 178 : 1288-1289, figs.

Wigand, R. (2). Serologische reaktionen an *Haemobartonella muris* und *Eperythrozoon coccoides*. Z. Tropenmed. u. Parasit. 7 : 322-341, figs.

Willett, K. C. (1). Zoonoses in East Africa. Nature, Lond. 177 : 948.

Willett, K. C. (2). The problem of *Trypanosoma rhodesiense*, its history and distribution, and its relationships to *T. gambiense* and *T. brucei*. E. Afr. med. J. 33 : 473-479.

Willett, K. C. (3). An experiment on dosage in human trypanosomiasis. Ann. trop. Med. Parasit. 50 : 75-80.

Willett, K. C. *see* Gordon, R. M.

Williams, J. H. *see* Hewitt, R. I.

Williamson, J. & Desowitz, R. S. Prophylactic activity of suramin complexes in animal trypanosomiasis. *Nature, Lond.* **177** : 1074-1075.

Willmer, E. N. Factors which influence the acquisition of flagella by the amoeba, *Naegleria gruberi*. *J. exp. Biol.* **33** : 583-603, figs.

Wilson, B. W. & Danforth, W. F. The oxidation and assimilation of acetate and ethanol by *Euglena*. *J. Protozool.* **3** Suppl. : 6.

Wilson, G. I. Some parasites of the English Sparrow in Maryland. *J. Parasit.* **42** Suppl. : 40.

Winter, K. B. *see* Honess, R. F.

Winter, W. D. Jr. & Foley, G. E. Chemical and biologic studies on 1, 2-dihydro-s-triazines. XII. Treatment of experimental murine toxoplasmosis, with a note on mutation. *Antibiot. & Chemother.* **6** : 444-449, figs.

Wirtschafter, S. & Jahn, T. L. The metabolism of *Trichomonas vaginalis* : The glycolytic pathway. *J. Protozool.* **3** : 83-85.

Wirtschafter, S., Saltman, P. & Jahn, T. L. The metabolism of *Trichomonas vaginalis* : the oxidative pathway. *J. Protozool.* **3** : 86-88, figs.

Wirtschafter, S. K. *see* Gross, J. A.

Wiseman, J. D. E. The rates of accumulation of nitrogen and calcium carbonate on the Equatorial Atlantic floor. [Protozoa.] *Advanc. Sci.* **12** : 579-582, figs.

Wiśniewski, W. L. [Biocenologische probleme in der Parasitologie.] *Wiad. Parazyt.* **1** 1955 : 7-41. [German summary.]

Wissink, A. J. Heterostegines du Miocene de l'Angola. *Proc. Akad. Wet. Amst.* **59B** : 386-388.

Wohlfarth-Bottermann, K. E. Proctistenstudien VII. Die Feinstruktur der Mitochondrien von *Paramecium caudatum*. *Z. Naturf.* **11B** : 578-581, figs.

Wolfgang, R. W. *see* Horwood, P. D.

Wolken, J. J. A molecular morphology of *Euglena gracilis* var. *bacillaris*. *J. Protozool.* **3** : 211-221, figs.

Wollin, G. *see* Ericson, D. B.

Wood, S. F. Sylvatic *Trypanosoma cruzi* in *Triatoma* from Southern Utah. *Bull. S. Calif. Acad. Sci.* **55** : 180.

Woodruff, A. W., Bell, S. & Schofield, F. D. Symposium on the treatment of human amoebiasis. II. The treatment of intestinal amoebiasis with emetine bismuth iodide, glaucarubin, dichloracet - hydroxy - methylanilide, camoform and various antibiotics. *Trans. R. Soc. trop. Med. Hyg.* **50** : 114-138.

Woochsmann, H. Die Fällungsme-tachromasie der Chromotropen Substanzen der Ciliaten und Flagellaten. *Protoplasma* **47** : 37-66, figs.

Woolfe, G. Trypanocidal action of phenanthridine compounds. *Brit. J. Pharmacol.* **11** : 334.

Woolfe, G. *see* Watkins, T. I.

Wright, F. N. *see* Colbourne, M. J.

Wright, W. H. Current status of parasitic diseases. *Public Hlth. Rep., Wash.* **70** 1955 : 966-975.

Wu, C. & Hogg, J. F. Free and nonprotein amino acids of *Tetrahymena pyriformis*. *Arch. Biochem. & Biophys.* **62** : 70-77.

Yakouti, E. *see* Magara, M.

Yamada, K. *see* Minato, M.

Yamamoto, K. [Rotatoria and Rhizopoda of Ozegahara and its neighbourhood.] *Scient. Res. Ozegahara Moor.* **1954** : 831-840, figs. [Japanese with English summary.]

Yancey, P. H. *see* Doolan, J. J.

Yartsheva, M. V. *see* Brazhnikova, H. E.

Yenne, K. A. *see* Heek, W. A.

Yoeli, M. Some aspects of concomitant infection of plasmodia and schistosomes. I. The effect of *Schistosoma mansoni* on the course of infection of *Plasmodium berghei* in the field vole (*Microtus guentheri*). *Amer. J. trop. Med. Hyg.* **5** : 988-999, figs.

- Yokogawa, M.** *see* Ritchie, L. S.
Young, M. D. *see* Jeffrey, G. M.
Young, M. L. *see* Wagtendonk, W. J. van.

Young, R. J. *see* Fremming, B. D.
Youssef, M. I., Hassan, M. Y. & Abdru, H. F. A faunule with *Nummulites deserti* from the Kosseir area. Bull. Inst. Desert Egypt 3 1953: 123-124.

Zago Filho, H. & Barretto, M. P. Sôbre flagelados intestinais da cuica *Lutreolina crassicaudata* com descrição de uma nova espécie de *Hexamita* (Flagellata Diplomonadida, Hexamitidae). Folia Clin. Biol. S. Paulo 23 1955: 81-86, figs.

Zasukhin, D. N. [Aetiology, epidemiology and control of Toxoplasmosis.] In: Toxoplasmosis, Moscow: 5-17. [In Russian.]

Zeil, W. Die Kreidetransgression in den Bayerischen Kalkalpen zwischen Iller und Traun. [Foraminifera.] Neues Jb. Min. Geol. Paläont. 101 1955: 141-226.

Zeil, W. *see* Hagn, H.

Zeuthen, E. *see* Scherbaum, O.

Zimmermann, A. M. *see* Landau, J. V.

Zimmermann, W. J. Field studies on *Eimeria* species in chickens on two Central Iowa farms. Iowa St. Coll. J. Sci. 30: 460-462.

Zimmerman, W. J. *see* Becker, E. R.

Zuckerman, A. Blood loss and replacement in rats infected with *Plasmodium berghei*. Bull. res. Coun. Israel 6E: 79.

host-parasite relationship, G. Lapage (1); Learning and instinct in animals, W. H. Thorpe; Systematic account of the Rhizopoda, M. W. Jepps; Physiology of reproduction, F. H. A. Marshall; Protozoan physiology, W. van Buddenbrock.

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References to the "Titles" are by the name(s) of the Author(s) printed in Clarendon type.

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Bibliography ; Reviews.—Publications of Walter Conrad, H. Kufferath (1); Bibliography of P. P. Goudkoff, B. Laiming, H. E. Thalmann & G. Tunell ; Recent foraminiferal literature, R. Todd (1), (2), (3), (4); Bibliography of Upper Carboniferous foraminifera, H. Hiltermann & G. Kremp; Bibliography of German micropaleontology, H. Hiltermann (4); Catalogue of Foraminifera, B. F. Ellis & A. R. Messina; Revision of guide fossil foraminifera of Atlantic coastal plains, J. D. McLean jr. (1); Comment on "*Nodosinella* Brady 1876, and associated Upper Palaeozoic genera". J. E. Conkin; Addendum to Fusulinid bibliography, D. F. Toomey.

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MORPHOLOGY. — General works; Textbooks. — Protozoology, E. Reichenow; Protozoan morphology, R. Srámek-Hušek (2); Morphology of protozoa, K. G. Grell (3); Morphology of protozoan breeding structures, F. H. A. Marshall; Biogeochemistry of strontium, J. M. Bowen.

Rhizopoda.—Structure of contractile vacuole in *Amoeba proteus*, A. Bairati & F. E. Lehmann; Plasmalemma and contractile vacuole of *Amoeba proteus*, F. E. Lehmann, E.

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Organellae of locomotion.—Acquisition of flagella in *Naegleria gruberi*, E. N. Willmer; Locomotor apparatus

in *Euglena*, L. P. Johnson; Electron-microscope studies of flagella of *Trichonympha*, D. R. Pitelka (1); Ciliary origin in peritrichids, C. R. Rouiller, E. Fauré-Fremiet & M. Gauchery (3); Fibrillar systems of *Balantidium*, D. Fernandez-Galiano (1); Primary organelles in *Paramecium*, C. F. Ehret & E. L. Powers (2); Buccal ciliature of *Tetrahymena*, J. C. Thompson; Neuromotor apparatus of *Eudiplodinium maggii*; D. Fernandez-Galiano (2).

Nucleus and cytoplasm.—Equivalence of Golgi apparatus and parabasal apparatus, P.-P. Grassé; Cytoplasmic structure of *Amoeba proteus*, E. Manni (2); Nuclear ribonucleic acid in *Amoeba proteus*, M. Rabino-vitch & W. Plant; Helical structures in nucleus of *Amoeba proteus*, G. D. Pappas; Nucleus of *Glabratella sulcata*, K. G. Grell (4); Structure of *Euglena viridis*, H. Schaden; Mucus particles in euglenids, A. Diskus (2); Nuclear structure of *Leishmania*, P. Sorouri; Nucleus and cytoplasm of Gregarinids, H. Streble; Chromosomal constitution in *Paramecium aurelia*, R. V. Dippell (1); Nuclear aberrations in *Tetrahymena pyriformis*, C. Ray (2); Nucleoproteins of *Tetrahymena*, M. Alfert & N. O. Goldstein; Macronucleus of *Stylcomotes digitalis*, Y. Skreb-Guilcher (1); Electron microscope studies of *Euplotes patella*, L. E. Roth; Hemixis in *Tokophrya infusionum*, M. A. Rudzinska.

Nuclear division.—Cell growth and cell division in *Amoeba proteus*, D. M. Prescott (4); Fission in *Amoeba*, M. Taylor; Nuclear division in foraminifera, Z. M. Arnold (1); Elimination of somatic nucleus in heterokaryotic foraminifera, K. G. Grell (5); Fission in *Hippocrepinella alba*, K.-G. Nyholm (2); Nuclear division of *Allogromia laticolensis*, Z. M. Arnold (1); Mitosis of *Trypanosoma cruzi*, M. Rubio (3); Nuclear division in *Leishmania*, P. Sorouri; Meiosis and fertilization in *Macrostyxon*, L. R. Cleveland (1); Micronuclear divisions in ciliates, B. R. Seshachar & P. B. Padmavathi (1); Structures of nuclear division in ciliates, E. Fauré-Fremiet, C. Rouiller & M. Gauchery (2); Macro-

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Various internal structures. — Structure of the contractile vacuole of *Amoeba proteus*, A. Bairati & F. E. Lehmann; Plasmalemma and contractile vacuole of *Amoeba proteus*, F. E. Lehmann, E. Manni & A. Bairati; Structure of the photoreceptors of *Euglena gracilis*, J. J. Wolken; Skeleton of *Coccolithus huxleyi* and *Gephyrocapsa oceanica*, E. Kamptner; Stomatogenesis in *Paramecium*, E. D. Porter; Differences in silver line system in *Paramecium*, E. E. Powelson; Oral primordium of *Stentor*, V. Tartar (2); Electron microscope studies of *Toxoplasma*, J. Ludvik.

Cysts ; spores.—Spores of *Amoeba*, M. Taylor; Spores of amoebids, Sister Monica; Spores of monocyctids, M. Meier; Electron microscopy of *Eimeria* oocyst wall, E. Scholtyssek & N. Weissenfels.

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General. — Protozoan physiology, W. van Buddenbrock; Protozoan physiology, K. G. Grell (3); Physiology of *Diffugia leidy* Wailes, M. Ertl (3); Physiology of *Pyxidium*, F. Biczok (2); Physiology of Gregarinids, H. Streble; Changing forms in ciliates, B. M. Klein; Resistance of *Paramecium caudatum* to natural chemical changes, A. Grebecki & L. Kuźnicki; Histochemistry of *Anaplasma*, J. E. Moulton & J. F. Christensen; Relationship between mitochondria and symbiotic bacteria, E. Fauré-Frémiet (1).

Nutrition; metabolism. — Vitamin B₁₂ metabolism in protozoa, S. H. Hutner, A. Aaronson, H. Baker & H. A. Nathan; Nutrition of protozoa, W. H. Johnson; Cytochromes in protozoa, K. M. Møller & D. M. Prescott; Hydrolysis of starch by amoebae, M. Kaneko (4); Proteolytic activity of amoebae, M. Kaneko (5); Chemical properties of contractile vacuole of *Amoeba proteus*, A. Bairati & F. E. Lehmann; Effect of starvation on *Amoeba proteus*, I. M. Heller & M. J. Kopac (2); Pinocytosis in Amoebids, H. Holter & J. M. Marshall jr.; Metabolism of *Amoeba proteus*, I. M. Heller & M. J. Kopac (1); Effect of enucleation on DPN level of *Amoeba*, A. J. Cohen; Uptake of adenine-8-¹⁴C in amoebids, W. Plant & R. C. Rustad; Influence of ribonuclease on respiration of *Amoeba*, Y. Skreb-Guilcher (3); Incorporation of S³⁵-methionine into proteins by *Amoeba proteus*, D. Mazia & D. M. Prescott; Distribution of minerals in *Amoeba proteus*, I. M. Heller & M. J. Kopac (3); Metabolism of nucleated and anucleated *Amoeba*, J. Brachet (1); Ingestion of C¹⁴ glucose by *Chaos chaos*, C. Chapman-Andersen & H. Holter; Nutrition of *Entamoeba histolytica*, M. Nakamura & E. E. Baker (2); Proteolytic enzymes in *Entamoeba histolytica*, R. A. Neal (2); Anaerobic respiration of *Entamoeba histolytica*, E. Kun, J. L. Bradin & J. M. Dechary; Metabolism of glucose by *Entamoeba histolytica*, M. R. Loran, M. W. Kerner & H. H. Anderson; Biochemistry of *Entamoeba histolytica*, M. I. van der Lingen & R. Elsdon Dew; Glucosamine and culture of *Entamoeba histolytica*, J. Greenberg, D. J. Taylor & H. W. Bond; Phagocytosis of erythrocytes by *Entamoeba moshkovskii*, T. Pizzi (1); Red blood cell ingestion by *Entamoeba gingivalis*, M. Kaneko (2); Ingestion of unusual food by *Entamoeba invadens*, L. Lamy (1); Nutrition in foraminifera, M. Băcescu & F. E. Caraion; Food of *Hippocrepinella alba*, K.-G. Nyholm (2); Physiology of chrysomonads, J. J. A. McLaughlin; Pigment "mutants" of *Cyanidium*, E. C. Dougherty & M. B. Allen; Respiration in *Dunaliella euchlora*, J. H. Ryther; Utilisation of

- acetate and ethanol by *Euglena*, B. W. Wilson & W. F. Danforth; Metabolic pathways in *Euglena gracilis* 2, S. Scher & O. Frank; Vitamin depletion of *Euglena*, J. J. Corbett (1); Oxidation metabolism of *Euglena*, W. Danforth; Carbon sources for euglenids, N. P. Anagnostakos; Induced enzyme synthesis in *Polytoma*, V. P. Cirillo; Nitrogen requirements of *Astasia chattoni*, R. W. Hanson; Nutrition of *Crithidia* spp., W. B. Cosgrove; Growth factors for *Crithidia fasciculata*, H. A. Nathan, S. H. Hutner & H. L. Levin; Aerobic metabolism of *Crithidia*, F. R. Hunter and W. B. Cosgrove; Succinate metabolism of haemo-flagellates, G. R. Seaman; Nutrition of *Leishmania tarentolae*, W. Trager (2); Analogies between the metabolism of trypanosomes and their zoological classification, T. von Brand; Carbohydrate metabolism in trypanosomes, J. F. Ryley; Respiration-inhibition by thiols in *Trypanosoma*, J. D. Fulton & D. F. Spooner (1); Antibody and respiration of *Trypanosoma*, R. S. Desowitz (1); Metabolism of *Trypanosoma vivax*, R. S. Desowitz (2); Oxidative metabolism in *Trypanosoma rhodesiense*, A. R. Jenkins & E. B. Grainge; Isocitric dehydrogenase from *Trypanosoma cruzi*, M. Agosin & E. C. Weinbach; Nucleic acid synthesis in *Trypanosoma mega*, G. J. Boné & M. Steinart; Aerobic metabolism of *Trichomonas* D. J. Doran (1); Aerobic fermentation of *Trichomonas*, D. J. Doran (2); Carbohydrate metabolism of *Trichomonas*, C. P. Read; Distribution of phosphatase in trichomonads, H. Nomura; Ion exchange resin on growth of *Trichomonas vaginalis*, E. Eugene, V. Lynch & R. K. Thoms (2); The oxidative pathway in *Trichomonas vaginalis*, S. Wirtschafter, P. Saltman & T. L. Jahn; Glycolytic pathway in *Trichomonas vaginalis*, S. Wirtschafter & T. L. Jahn; Physiology of *Trichomonas vaginalis*, K. Asami; Ingestion of wood by termite flagellates, H. Schmidt; Metabolism of *Trichonympha*, J. Gutierrez; Metabolism of *Heliophrya erhardi*, J. Dragesco, R. Blanc-Brude & M. Gauchery; Sulphur requirements in some forms of *Plasmodium*, J. D. Fulton & P. T. Grant (2); Carbohydrate metabolism of *Plasmodium berghei*, J. D. Fulton & D. F. Spooner (2); Biochemistry of malarial pigment, T. Deegan; Pigment of *Plasmodium falciparum* and *P. malariae*, T. Deegan & B. G. Maegraith (2); Pigment of *Plasmodium knowlesi* and *P. cynomolgi*, T. Deegan & B. G. Maegraith (1); Nutrition of hymenostome ciliates, G. G. Holz; Tissue-feeding ciliates, W. J. Harman & J. O. Corliss; Nutrition of *Paramecium*, W. H. Johnson & C. A. Miller (1) (2); Metabolism of *Paramecium*, C. A. Miller & W. J. van Wagtenonck; Nutrition of *Paramecium bursaria*, V. Schwartz (1); Succinoxidase system of *Paramecium aurelia* variety 4, D. H. Simonsen & W. J. van Wagtenonck; Surface antigens of *Paramecium aurelia*, W. J. van Wagtenonck, B. van Tijn, etc.; Respiration of cyanide-adapted *Tetrahymena pyriformis*, B. W. McCashland; Inactivated *Tetrahymena* as food for protozoa, D. M. Lilly, W. H. Cevallos & B. R. Lucchesi; Requirements of pyridoxime for *Tetrahymena*, A. M. Elliot & G. M. Clark (2); Oxidation of succinic acid by *Tetrahymena*, H. J. Eichel; Free and nonprotein amino acids in *Tetrahymena*, C. Wu & J. F. Hogg; Pigments of *Stentor niger*, M. Barbier, E. Fauré-Fremiet & E. Lederer; Nutrition of *Dasytricha*, J. Gutierrez & R. E. Hungate; Intracellular oxidation and reduction patterns in *Chlamydomonas*, M. Kaneda; Respiration in *Polyspira delagei*, Y. Skreb-Guilcher (2); Effect of nutritional state on photoreversal to ultraviolet injuries in *Didinium nasutum*, C. L. Brandt, D. C. Shephard & A. C. Giese; Nutrition of *Euplotes*, D. M. Lilly & S. M. Henny.
- Properties of nucleus and cytoplasm.—Effect of nucleus transfer in amoebae on antibody formation, J. F. Danielli; Nuclear ribonucleic acid in *Amoeba proteus*, M. Rabino-vitch & W. Plant; Enzymes associated with mitochondria of *Chaos chaos*, H. Holter; Presence of nucleic acids in *Dientamoeba fragilis* during nuclear division, S. Saegusa (2); Nucleus of *Glabratella sulcata*, K. G. Grell (4); Nucleus of *Allogromia*

laticoelaris, Z. M. Arnold (1); Desoxyribonucleic acid in *Trypanosoma cruzi*, M. D. Alcayaga; Intracellular pH of parasite ciliates, D. N. Ganguly & S. K. Banerjee; Micronuclear behaviour in conjugation of *Paramecium*, A. Nakata; Exclusion of ciliary antigens in *Paramecium aurelia*, P. Margolin; Ciliary antigens of *Paramecium aurelia*, variety 1, G. H. Beale; Nuclear development in *Paramecium bursaria*, C. F. Ehret & E. L. Powers (1); Nuclear differentiation in *Tetrahymena*, D. L. Nanney; Neuromotor apparatus of *Eudiplodinium maggii*, D. Fernandez-Galiano (2).

Secretion; Excretion. — Group decomposing enzyme from *Trichomonas*, T. Ikeda; Ultraviolet light on paramecin, R. Setlow & B. Doyle;

Growth; Weight.—Effect of cell size on growth of *Amoeba proteus*, D. M. Prescott (1); Effect of cytoplasmic amputations on growth of *Amoeba proteus*, D. M. Prescott (2); Cell growth and cell division in *Amoeba proteus*, D. M. Prescott (4); Temperature and shell growth, S. Epstein & H. A. Lowenstam; Growth in *Dictyostelium discoideum*, M. Sussman; Volume of *Euglena*, J. J. Corbett (2); Growth of bleached *Euglena*, J. A. Gross & T. L. Jahn (1); Growth of *Chlamydomonas*, E. O. Bernstein & T. L. Jahn; Growth of *Chilomonas paramecium*, S. Mučibabić; Changes in growth curves of *Astasia longa*, H. W. Schoenborn (1); Growth of *Paramecium* in axenic culture, C. A. Miller & W. J. van Wagtendonk; Cell size in synchronous cultures of *Tetrahymena*, O. Scherbaum; Synchronous divisions of *Tetrahymena* in culture, O. Scherbaum & E. Zeuthen; Growth of *Tetrahymena pyriformis*, L. L. Swader & E. G. S. Baker; "Fission zone" of *Spirostomum ambiguum*, P. B. Padmavathi.

Reproduction. — Reproduction in Protozoa, F. H. A. Marshall; Fertilization in protozoans, M. Hartmann; Reproduction in foraminifera, Z. M. Arnold (1); Autogamy in *Paramecium*, T. M. Sonneborn (2); Cilia arrangement in *Paramecium* in con-

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Vitality. — Viability of *Dientamoeba*, S. Saegusa (1); Viability of dried *Strigomonas*, D. I. Annear; Longevity of *Trichomonas* spp. in culture with bacteria, I. de Carneri (2).

Regeneration; Degeneration.—Inhibition of regeneration in *Stentor coerulesus*, P. B. Weisz (1); Regeneration in *Stentor* and *Condyllostoma*, V. Tartar (1).

Locomotion; Movement. — Movement of *Amoeba*, A. C. Ballard; Orientation in space by ciliates, B. Párducz (2); Ciliate avoiding reactions, B. Párducz (2); pH on movement in *Paramecium*, J. W. Lee (1); Geotropism in *Paramecium caudatum*, B. Fedecka.

Sexuality.—Sexual cycle in flagellates of *Cryptocercus*, L. R. Cleveland (2); Hormone-induced sexual cycles of flagellates, L. R. Cleveland (4); Antigenic variation in *Paramecium aurelia*, variety 9, C. R. Pringle; Conjugation in *Paramecium aurelia*, M. Roque (1); Sexual types in *Paramecium caudatum*, É. Vivier (1); Conjugation in *Paramecium caudatum*, K. Hiwatashi (1); Mating types in *Oxytricha*, R. W. Siegel; Sexual dimorphism in *Prodiscophrya*, J. Kormas & K. Kormas.

Effects of physical factors.—Preservation of protozoa at low tem-

perature, U. Reusse; Effect of low temperature on protozoa, V. Molinari (1); Low temperature on trypanosomes and *Plasmodium*, V. Molinari & G. Montezin (1); Development of oocysts and flagellates *in vitro*, L. Lamy & J. Benex; Effect of enucleation on DPN level of *Amoeba*, A. F. Cohen; Damage in amoebae due to low concentrations of methyl di- (β -Chloroethyl)-amine, M. J. Ord; Electrical stimuli on *Amoeba proteus*, K. Umrath; Temperature-pressure experiments on *Amoeba proteus*, J. V. Landau, A. M. Zimmermann & D. A. Marshall; Low temperature on *Entamoeba*, V. Molinari (2); Factors influencing acquisition of flagella in *Naegleria gruberi*, E. N. Willmer; Temperature tolerance of *Euglena*, J. A. Gross & T. L. Jahn (2); Effect of temperature on growth of *Chilomonas paramecium*, S. Mućibabić; Effect of ultraviolet on *Astasia longa*, H. W. Schoenborn (2); Ultrasonic vibrations on *Trypanosoma equiperdum*, A. Verain, A. Verain & M. le Filliatre; Freezing *Trichomonas foetus* to -79°C ., L. P. Joyner & G. H. Bennett; Oxygen toxicity for the protozoan fauna of *Cryptocercus*, L. R. Cleveland & A. W. Burke; Effect of high altitude on fowl malaria T. Freyvogel (1); High altitude on incidence of human malaria, T. Freyvogel (2); Light stimuli and *Paramecium caudatum*, J. Dabrowska; Factors affecting emergence of gametocytes of *Plasmodium gallinaceum* and exflagellation, A. Bishop & E. W. McConnachie; Ultrasonic vibrations on *Plasmodium berghei*, A. Verain & A. Verain (1); Effects of freezing on *Toxoplasma* D. E. Eyles, N. Coleman & D. J. Cavanaugh; X-rays on division-rate of ciliates, J. Bridgman & R. F. Kimball; Light stimuli and *Stentor coerules*, *Spirostomum ambiguum*, etc., J. Dabrowska; Effect of X-rays on nucleus of *Paramecium*, R. F. Kimball & N. Gaither; Oxygen and effect of X-rays on *Paramecium aurelia*, R. F. Kimball; Response to stimuli in *Paramecium*, B. Párducz (1); Electrical stimulations on *Paramecium*, G. Viaud & N. Bonaventure; Effect of electrical stimuli on *Paramecium caudatum*, N. Bonaventure; Geotropism in *Paramecium cauda-*

tum, B. Feddecka; Temperature on inhibition of *Tetrahymena* by antibiotics, J. A. Gross; Effect of X-rays on synchronized cultures of *Tetrahymena*, H. S. Ducoff (1); Effect of grafting in *Stentor*, V. Tartar (3); Effects of high hydrostatic pressure on a feeding suctorian, J. A. Kitching.

Effects of chemicals.—Action of trichomycin on protozoa, S. Hosoya; Effect of gonadotrophic hormones on encystation of frog protozoa, G. Čehović; Mode of action of pyrimethamine, H. A. Nathan, R. J. Davis & M. Sanders; Effect of chloramphenicol and analogues on *Entamoeba histolytica* and *Trichomonas*, I. de Carneri (4); Ribonuclease on living amoebae, J. Brachet (2); Effect of phenylalanine-3- C^{14} on nucleated and anucleated fragments of amoebids, A. Ficq; Effect of a "nitrogen mustard" on *Amoeba proteus*, M. J. Ord & J. F. Danielli; Melanization in *Amoeba proteus*, D. Frisch & H. I. Hirshfield; Surface-active agents on *Pelomyxa carolinensis*, R. M. Nardone, D. C. Brongart, M. P. Hurley & M. E. Gilson; Amoebicidal action of a fluorenone *in vitro*, A. B. Stam & P. H. van Thiel; Comparison of *in vitro* and *in vivo* amoebicidal tests, J. E. Lynch, B. J. Bamforth & D. Gesckeritz; Cortisone on entamoebae, L. Lamy & V. Molinari (2); Effect of antibiotics on *Entamoeba histolytica in vitro* and *in vivo*, P. E. Thompson and others; Alkaloids on *Entamoeba histolytica in vitro*, H. Mühlpfordt & R. Martinez-Silva; Antimetabolites on growth of *Entamoeba histolytica*, M. Nakamura & E. E. Baker (1); Action of azaserine on *Entamoeba histolytica*, M. Nakamura; Effect of pyrimidine amides on *Entamoeba histolytica*, S. Jonsson & M. Nakamura; Oxyteroids on *Entamoeba histolytica*, H. Seneca & E. Bergendahl; Effect of chemicals on cysts of *Entamoeba histolytica*, T. Simitch, S. Ramsire, Z. Petrovitch, D. Chibaltch & L. Jankov; Cortisone on *Entamoeba invadens*, L. Lamy & V. Molinari (1); Effect of cyanide on *Chilomonas*; B. W. McCashland & W. R. Marsh; Sulphanilamide sensitivity of *Chilomonas* exposed to *p*-aminobenzoic acid, R. P. Hall;

Effect of 2,4-dinitrophenol on *Ochromonas*, S. Aaronson, S. H. Hutner & H. Baker; Vitamin B₁₂ assay with *Euglena*, S. H. Hutner, M. K. Bach & G. I. M. Ross; Streptomycin on *Euglena gracilis*, J. Vávra (1); Effect of dissolved carbon dioxide on *Astasia longa*, J. A. Borgers & J. A. Kitching; Antagonism of trypanocidal action of puromycin, R. I. Hewitt, A. R. Gumble, W. S. Wallace & J. H. Williams (2); Effect of amino nucleoside of puromycin on *Trypanosoma*, E. J. Tobie & B. Highman; Action of trypanocidal drugs during barbiturate narcosis of mice, M. Petrú & M. Vojtechovska (2); Puromycin on *Trypanosoma gambiense*, C. Trincão, A. R. Nogueira & L. T. de Almeida Franco; Cortisone on *Trypanosoma cruzi*, S. M. Rubio D. (1); Cortisone on *Trypanosoma cruzi*, P. T. Pizzi & J. Chemke S.; Action of stilbamidine on *T. rhodesiense*, J. D. Fulton & P. J. Grant (1); Pyrimidines and triazines on *Eimeria tenella*, R. E. Lux; Inhibition of *Eimeria tenella* with pyrimethamine and a sulphonamide, S. B. Kendall & L. P. Joyner; Resistance to pyrimethamine and metachloridine, J. Greenberg (2); Effect of DDT on *Plasmodium* in the insect vector, R. W. Burgess; Alcohol on *Plasmodium berghei*, J. Sautet, V. Pastacalli & J. Vuillet; Nivaquin and acquired resistance to *Plasmodium berghei*, E. Sergent & A. Poncet (1); Ethionine in *Plasmodium berghei* infections, A. E. R. Taylor; Cross-resistance to drugs by *Plasmodium gallinaceum*, J. Greenberg & H. W. Bond; Effect of drugs on sporogony of *Plasmodium gallinaceum*, L. A. Terzian; Spontaneous appearance of drug resistance in *Toxoplasma*, W. D. Winter & G. E. Foley; Effect of paraminosalicylate on *Colpoda*, T. Francheschi; Response of *Paramecium* to patulin, M. L. Austin, D. Widmayer & L. M. Walker; Effect of penicillin on *Paramecium* cultures, J. J. Doolan, M. Rotner & P. H. Yancey; Inhibition of *Tetrahymena* by tryptophane analogue, G. W. Kidder & V. C. Dewey; Temperature on inhibition of *Tetrahymena* by antibiotics, J. A. Gross; Effect of cobalt and nickel on *Tetrahymena*, J. S. Roth; Influence of certain medicines on *Spirostomum*,

S. T. Tchakhotine & A. Benedicenti; Chemicals producing abnormal growth of suctorian protozoa, F. J. Sterbenz & D. M. Lilly; Effects of chemicals on growth of carnivorous ciliates, D. M. Lilly & W. H. Cevallos;

Cyst-formation. — Effect of gonadotrophic hormones on encystation of frog protozoa, G. Čehović; Cysts etc. of free-living amoebids, Sister Monica; Encystation in *Entamoeba invadens*, W. Balamuth (2); Encystment of *Entamoeba histolytica*, C. Moriguchi; Cyst formation in *Dinobryon crenulatum*, B. Asmund; Cilium development in cystation of *Colpoda cucullus*, K. Hashimoto (3); Cystic stage of *Stylonychia histrio*, K. Hashimoto (2); Structural features in cystic stage of *Vorticella microstoma*, K. Hashimoto (1); Excystation in *Pleurotricha lanceolata*, W. B. Jeffries; Excystment of *Frontonia depressa*, J. D. Stout (2).

Behaviour. — Protozoan learning and instinct, W. H. Thorpe.

Cultivation. — Development of protozoa at low temperatures, G. A. Noble; Cultivation of *Amoeba proteus* on *Tetrahymena*, D. M. Prescott & J. W. James; Cultivation of *Amoeba*, M. Taylor; Cultivation of *Amoeba proteus* and *Chaos chaos*, D. M. Prescott (3); Cultivation of *Entamoeba*, R. Despieds; Cultivation of *Entamoeba gingivalis* without rice starch, M. Kaneko (1); Cultivation of *Entamoeba invadens*, E. W. McConnachie; Cultivation of *Entamoeba histolytica* with glucosamine, J. Greenberg, D. J. Taylor & H. W. Bond; Elimination of *Blastocystis* from *Entamoeba histolytica* cultures, S. R. Smedley; Cultivation of *Retortamonas*, M. A. R. Ansari; Synthetic medium for *Strigomonas*, B. A. Newton; Cultivation of *Trypanosoma ranarum*, F. G. Wallace; Cultivation of *Trichomonas*, Z. Petrović; Growth of *Trichomonas* spp. with bacteria, I. de Carneri (2); Culture of *Trichomonas vaginalis* and *T. hominis*, I. de Carneri (1); Elimination of bacteria and fungi from cultures of *Trichomonas vaginalis*, I. de Carneri (3); Cultivation of *Plasmodium* spp., S. Glenn & R. D. Manwell; Axenic culture of *Paramecium*, F. J. Sterbenz (1); Thioctic

acid requirement of *Paramecium*, F. J. Sterbenz (2); Cultivation of *Colpoda*, T. Franceschi; Culture of *Frontonia leucus*, T. A. Okada.

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- Entamoeba histolytica*, M. F. André; Effect of bacteria upon the virulence of *Entamoeba histolytica*, H. Matsumoto (1); Relationship between bacteria and virulence in *Entamoeba histolytica*, R. A. Neal (1); Effect of a nematode on invasion of liver by *Entamoeba histolytica*, I. M. Krupp; Effect of bacteria on the production of experimental hepatitis by *Entamoeba histolytica*, H. Matsumoto (2); Experimental human infections with *Entamoeba histolytica*, P. C. Beaver, etc. (1); Red blood cell ingestion by *Entamoeba gingivalis*, M. Kaneko (2); Virulence of *Leishmania enrietti*, J. O. Continho (1); Neurological problems of trypanosomiasis, L. van Bogaert; Infection of domestic animals with trypanosomes, E. E. Edwards, J. M. Judd & F. A. Squire (3); Cytochemical changes in adrenals during trypanosomiasis, K. Takagi; *Trypanosoma* spp. infections in sheep and goats, E. E. Edwards, J. M. Judd & F. A. Squire (1) & (2); Trypanosomiasis of the dog occurring in Venezuela, R. J. Gomez Rodriguez; Lethal effect on sheep fed by *Trypanosoma melophagium*, W. A. Nelson; Lethal effects of *Trypanosoma* infection on the host, L. Bouisset, H. Harant & J. Ruffié (2); Effect of hibernation on *Trypanosoma equiperdum*, L. Bouisset, H. Harant & J. Ruffié (1); *Trypanosoma rhodesiense* in Belgian Congo, F. Evens & C. Niemegeers; Salicylic acid and derivatives on *Trypanosoma gambiense* infections, H. Fromentin; Effect of *Trypanosoma gambiense* on dogs, M. Petrú & M. Vojtěchovska (1); Effect of salicylate on plasma proteins in rats infected with *Trypanosoma lewisi*, W. M. Meyers & M. G. Lysenko; *Trypanosoma lewisi* in hypoxic rats, F. W. Hughes & A. C. Tatum (2); New strain of *Trypanosoma cruzi*, M. Rubio D. (2); Vaginal trichomoniasis in monkeys, E. Eugene, V. Lynch & R. K. Thoms (1); Vaginal pH and *Trichomonas* infection, H. Verhey; Variation of host diet on infections of *Trichomonas*, J. Cairns; Habitat of *Giardia* in kitten, D. J. Hitchcock & T. D. Malewitz; Pathology of histomoniasis, T. D. Malewitz (2); Survival of *Histomonas* in faeces, M. M. Farr; Reinfection of *Haploembia solieri* by gregarine, R. Stefani (1); *Globidium* infection in an Indian horse, L. S. Hiregaudar (2); Pathogenicity of *Eimeria alabamensis*, L. R. Davis, D. C. Boughton & G. W. Bowman; Effect of *Eimeria acervulina* on the host, N. F. Morehouse & W. C. McGuire; Natural infections of *Eimeria* in chickens in Iowa, W. J. Zimmermann; Physiological and pathological problems of malaria, B. G. Maegraith; *Plasmodium* and *Haemoproteus* infection in pigeon, E. R. Becker, W. F. Hollander & W. H. Pattillo; Influence of *Schistosoma* on *Plasmodium* infections, M. Yoeli; Blood replacement in rats with *Plasmodium*, A. Zuckerman; *Plasmodium* infections in different strains of mice, J. Greenberg (1); Concurrent infection with *Plasmodium relictum* and Western equine encephalitis virus, H. C. Barnett; *Plasmodium lophurae* in mice, R. B. McGhee (2); Inoculation of ducks with *Plasmodium lophurae*, D. E. Harding (1); Inoculation of chickens with *Plasmodium lophurae*, D. E. Harding (2); Increase of virulence of *Plasmodium gallinaceum* by cyclical passage, T. Freyvogel (1); Effect of *Plasmodium gallinaceum* infection on chick adrenals, D. J. Taylor, J. Greenberg, E. S. Josephson & E. M. Nachel; Sickling tract and *Plasmodium falciparum*, M. J. Miller, J. V. Neel & F. B. Livingstone; Glycogenesis in liver of rats infected with *Plasmodium berghei*, T. von Brand & T. I. Mercado; Factors influencing infections of *Plasmodium berghei*, P. M. Carrescia & E. G. Arcolei; Effect of diet on *Plasmodium berghei* infections, J. Sautet & J. Caporali; Body temperature during infection with *Plasmodium berghei*, A. Verain & A. Verain (2); Effect of *Plasmodium berghei* on reproduction of rodents, H. Werner (2); *Plasmodium berghei* in hypoxic rats, F. W. Hughes & A. L. Tatum (1); Host response to injection of *Plasmodium berghei*, G. Gabiani & J. Orfila (3); *Plasmodium berghei* in suckling mice, G. Fabiani & J. Orfila (4); Effect of diet on infection with *Plasmodium berghei*, H. Galliard, J. Lapiere & J. Murand; Host coenzyme A and *Plasmodium berghei* infection, I. Singer & W. Trager; Histopathology of *Leucocytozoon*, J. W. Newberne;

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in *Plasmodium gallinaceum* infections, R. Deschiens, F. Pick, & U. Sarauw; Serological studies in toxoplasmosis, T. Hellbrügge, W. Spiegler & W. Grewing; Immunity in toxoplasmosis, E. C. Cutchins & J. Warren; *Toxoplasma* antibody and properdin, H. A. Feldman; Serological response to *Toxoplasma* infections, L. Jacobs; *Toxoplasma* antigen from duck embryos, J. G. Heyl & R. Gispén; Comparison of different *Toxoplasma* antigens, W. Weigand; Serological studies of *Toxoplasma* from the gondi, C. Vermeil (1); Serological affinities between *Toxoplasma* and *Sarcocystis*, C. Moscovici; Serology of *Haemobartonella* and *Eperythrozoon*, R. Wigand (2); Serological reactions with *Bartonella munitis* and *Eperythrozoon coccoides*, R. Wigand (1); Diagnosis of anaplasmosis by complement-fixation, D. W. Gates & T. O. Roby.
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Apodemus sylvaticus, intestine (Asia): *Isospora uralicae* sp. n. (Coccid.), S. K. Svanbaev.

Bats, blood (California, U.S.A.), *Trypanosoma vespertilionis* (Mastig.) O. G. Mitchell.

Chimpanzee, blood (Liberia) *Plasmodium reichenowi* (Sporoz., Haemosp.), R. S. Bray.

Chimpanzee, intestine (U.S.A.), *Entamoeba histolytica* (Rhizop.), B. D. Fremming, F. S. Vogel, R. E. Benson & R. J. Young.

Chimpanzee, infections of *Plasmodium schwetzi*, *P. reichenovi*, *P. vivax* and *P. malariae* (Haemosporid.), P. C. C. Garnham, R. Lainson & A. E. Gunders.

Cattle, intestine (Austria) *Eimeria auburnensis*, *E. böhmii* (Coccid.), L. K. Böhn & R. Supperer.

Cattle, intestine (Italy); *Giardia bovis* (Polymast. Mastig.), L. Botti.

Clethrionomys glareolus (S. Moravia); *Eimeria falciformis* (Coccid.), Ž. Černa & M. Daniel.

Cow; intestine (India), *Eimeria mundanagi* sp. n. (Coccid.), L. S. Hinegaudar (1).

Deer, intestine (Austria), *Eimeria ponderosa* (Coccid.), L. K. Böhn & R. Supperer.

Dogs, infection with *Toxoplasma* (Sporoz.), R. Lainson.

Domestic animals, blood (Africa) : (Mastig.), trypanosome infections, E. E. Edwards, J. M. Judd & F. A. Squire (3).

Ellobius talpinus, intestine (Asia) : *Eimeria ellobii* sp. n. (Coccid.), S. K. Svanbaev.

Epimys natus, blood (French Equatorial Africa), *Hepatozoon* sp. (Sporoz.), P. Le Goe, P. Giroud & F. Roger.

Lutreolina crassicaudata, intestine, (Brazil): *Trichomonas* and new *Hexamita* (Mastig.), H. Zago Filho & M. P. Barreto.

Meriones tamariscinus, intestine (Asia): *Eimeria markovi* sp. n. (Coccid.), S. K. Svanbaev.

Moose, heart muscle (Canada); *Sarcocystis* (Sporoz), A. E. Allin.

Mustela eversmanni, intestine (Asia): *Isospora pavlovskyi* sp. n., *I. eversmanni* sp. n., *Eimeria ictidea* H. 1927 (Coccid.), S. K. Svanbaev.

Pan satyrus verus (liver) *Plasmodium vivax* (Haemosporid.), J. Rodhain (4).

Pan satyrus, experimental infection with *Plasmodium vivax* (Haemosporid.), J. Rodhain (3).

Pig, nasal cavity (U.S.A.) *Trichomonas* sp. (Mastig.), B. W. Buttrey.

Raccoons, blood (U.S.A.) *Trypanosoma cruzi* (Haemoflag), B. C. Walton, P. M. Bauman & C. M. Herman.

Rat, blood (Belgium), *Plasmodium inopinatum* (Haemosporid.), R. Ressler.

Rats, blood (Italy) incidence of *Trypanosoma lewisi* (Mastig.), V. Giuliani.

Rodents of Utah, U.S.A., incidence of *Trichomonas muris* (Mastig.), F. R. Evans.

Rodents, gut (U.S.A.) record of coccidia, N. D. Levine & V. Ivens.

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Rodents, blood (Belgian Congo), *Trypanosoma lewisi*, *T. oenomyi*, *Grahamella* and *Hepatozoon*, J. Schwartz, H. Baumann & M. Fort.

Saiga tatarica, intestine (Asia): *Eimeria elegans* J., G. & R., 1932 (Coccid.), S. K. Svanbaev.

Sheep (Belgian Congo), incidence of coccidiosis, J. Deom & J. Mortelmans.

Sorex araneus (S. Moravia), *Eimeria komareki* (Coccid.), Z. Černa & M. Daniel.

Tachyoryctes ruandae, intestine, (Belgian Congo): *Eimeria tachyoryctis* sp. n. (Coccid.), L. Berghe & M. Chardome.

Vulpes corsac, intestine (Asia): *Eimeria heissini* sp. n., *Isospora buriatica* J. & M., 1940 (Coccid.), S. K. Svanbaev.

Aves:

Birds, intestine (Germany) incidence of *Eimeria* and *Isospora* (Coccid.), E. Scholtzseck.

Birds, blood (England), incidence of *Trypanosoma avium* (Mastig.), J. R. Baker (1).

Sarcocystis in Mexican birds, R. K. Selander.

Alectoris graeca, caeca (U.S.A.), *Trichomonas gallinarum* (Mastig.), R. W. Wichmann & T. A. Bankowski.

Aythya marila, kidney (U.S.A.): *Eimeria somateriae* (Coccid.), L. R. Penner.

Branta canadensis interior, blood (U.S.A.); *Haemoproteus*, *Leucocytozoon* and *Plasmodium*, (Haemosporid.), N. D. Levine & H. C. Hanson.

Cornus brachyrhynchos brachyrhynchos (U.S.A.): *Toxoplasma* (Sporozoa), P. Finlay & R. D. Manwell.

Eupsitulla auricapillus, muscle (Belgium); *Sarcocystis* sp. (Sporoz.), J. Rodhain (1).

Goose (Russia): *Eimeria truncata*, T. A. Ginezinskaya; *E. truncata*, *E. anseris* (Coccid.), M. F. Schatz.

Passer domesticus, blood (U.S.A.), blood protozoa, R. D. Manwell.

Passer domesticus, blood (Iraq); *Plasmodium praecox* (Haemosporid.), A. H. Al-Abbass.

Passer domesticus, intestine (U.S.A.); *Isospora* sp. (Coccid. Sporoz) G. I. Wilson.

Pternistis leucoscepus, intestine (Italy); *Eimeria pternistis* (Coccid.), G. Agostinucci & E. Bronzini.

Turkeys, intestine (Great Britain) *Eimeria adenoides* (Coccid.), M. J. Clarkson.

Reptilia :

Reptiles, blood (U.S.A.), incidence of *Haemogregarina* sp. (Gregarin.), R. W. Hull & J. H. Camin.

Ameiva ameiva ameiva (New World lizard), blood : *Plasmodium pifanoi* sp. n. (Spor. Haemospor.), J. V. Scorza & B. y. C. Dagert.

Amphibia :

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Bufo marinus, blood (Venezuela) haemogregarines; *Toxoplasma* (Sporoz.), J. V. Scorza, C. Dagert B. & L. I. Arocha.

Cryptobranchus bishopi, faeces (U.S.A.); *Trichomonas* (Mastig.), T. D. Malewitz (1).

Rana pipiens tadpoles, intestine (U.S.A.); intestinal protozoa, W. H. McArthur.

Pisces :

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Bathygobius capito, gills (Italy); *Trichodina dohrni* (Peritrich. Cil.), H. H. Reichenback-Klinke.

Clupea harengus, list of parasites; R. P. Dollfus.

Coregonus albula (Russia) : *Trichophrya* sp. *Henneguya zschokhei*, *Chlo-nomyxum thymalli*, O. N. Bauer.

Hypomesus olidus (Russia) : *Glugea hertwigi* (Microsporid), A. C. Achmerov.

Perca fluviatilis, (Switzerland); *Myxobolus* and *Henneguya* (Myxosporid), L. Thélin.

Insecta :

Insects, intestine (France), record of gregarines, O. Tuzet & R. Ormières.

Aphodius sp. gut (France); *Didymophyes guttiformis* (Greg. Sporoz.), J. Théodoridés & R. Ormières.

Apoidea; gregarines found, J. Théodoridés (2).

Aporia crataegi, midgut (Czechoslovakia); *Plistophora aporiae*, (Greg.) J. Veber.

Beetles from France and Morocco; protozoan parasites, J. Théodoridés (1).

Calopteryx spp. fat body (Yugoslavia) : *Plistophora calopterygis* (Microsporid), J. Weiser (3).

Ephemerella ignita, fat body (Czechoslovakia) : *Nosema tatraca* (Microsporid.), J. Weiser (3).

Gonocephalum arenarium, fat body (South Africa) : *Perezia* sp. (Sporozoa, Microsporidia), A. J. Gibbs.

Hemideina thoracica, intestine (N. Zealand) : *Monocercomonoides melolonthae* (Mastig.), M. Laird.

Laemophoeus ferrugineus (England); *Coelogregarina ephestiae* (Sporoz. greg.), F. J. Manning.

Odontria zealandica, intestine (N. Zealand) : *Monocercomonoides melolonthae*, *Retortamonas phyllophagae*, *Polymastix melolonthas* (Mastig.), M. Laird.

Pericoptus truncatus, intestine (N. Zealand); *Monocercomonoides melolonthae*, *Polymastix melolonthae*, *Retortamonas pericopti* sp. n. (Mastig.), M. Laird.

Platyzosteria novae-zealandiae, intestine (N. Zealand) : *Monocercomonoides melolonthae* (Mastig.), M. Laird.

Schistocerca gregaria, gut, *Gregarina garnhami* sp. n. (Spor. Gregar.), E. U. Canning.

Tortrix viridana (S. Moravia); *Octosporea viridanae*, *Nosema tortricis* (Microsporid.), J. Weiser (4).

Myriapoda :

Myriapods, intestine (France); record of gregarines, O. Tuzet & R. Ormières.

Gregarines from Indian millipedes, K. R. Karandikar & S. S. Rodgi (2).

Gongylorhynchus sp., gut (Bombay) : *Nyctotherus gongylorhynchus* sp. n. (Ciliata), K. R. Karandikar & S. G. Rodgi (1).

Thyropygus nigrolabiatus, gut (Bombay): *Nyctotherus diplopodae* sp. n. (Ciliata), K. R. Karandikar & S. G. Rodgi (1).

Thyropygus sp., gut (Bombay): *Nyctotherus thyropygus* sp. n. (Ciliata), K. R. Karandikar & S. G. Rodgi (1).

Arachnida :

Tyrophagus noxius gut (Czechoslovakia): *Nosema steinhausi* (Microsporid.), J. Weiser (2).

Crustacea :

Crustacea, intestine (France); record of gregarines, O. Tuzet & R. Ormieres.

Astacus pallipes (England): Microsporidea, H. P. Goodrich.

Hyalella azteca intestine (U.S.A.); *Gregarina hyalellae* (Greg. Sporoz.), D. De Guisti & S. Delidow.

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Infections of *Tetrahymena pyriformis* in slugs, E. N. Kozloff (1).

Infections of *Tetrahymena limacis* in slugs, E. N. Kozloff (2).

Bielzia caeruleans, gut (Czechoslovakia); *Trichodinella sphaeronuclea* sp. n. (Cil. peritrich), J. Lom (1).

Limax maximus, gut (Czechoslovakia); *Trichodinella sphaeronuclea* sp. n. (Cil. Peritrich), J. Lom (1).

Monodena fidelis, gut (U.S.A.): *Tetrahymena limacis* (Holotrich.), E. N. Kozloff (3).

Prophysaon andersoni, gut (U.S.A.); *Tetrahymena limacis* (Holotr.), E. N. Kozloff (3).

Annelida :

Oligochaetes (Germany), list of hosts of monocystids (Gregarin.), M. Meier.

Aeolosoma hemprichi, gut (Czechoslovakia): *Radiophryoides* n. gen. *komareki* n. sp. (Cil. Holotrich), J. Lom (1).

Dichogaster baeri, seminal vesicles (West Africa): *Monocystis omodei* sp. n. *Apocystis dichogasteri* sp. n. (Gregar.), O. Tuzet & M. Vogeli (1).

Eudrilus eugeniae, seminal vesicle (Ivory Coast); *Dirhynchocystis eudrilii* sp. n. and *Monocystis endrillii* sp. n. (Gregar.), O. Tuzet & M. Vogeli (2).

Fridericia hegemon, intestine (Czechoslovakia); *Jirovecella hegemonis* (Holotr.), J. Lom (2).

Millsonia anomala, seminal vesicles (West Africa): *Monocystis capillata*, *M. lobosa* sp. n. (Gregar.), O. Tuzet & M. Vogeli (1).

Nais communis, gut (India): *Triactinomyxon naidanum* (Actinomyx.), K. V. Naidu.

Pomatoceras triqueter, gut (Norway); *Spirohutschiella dignyi* (Ciliata), P. Fjeld.

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Animal Flagellosis. — Survival of *Histomonas* in faeces, **M. M. Farr;** Biology of *Trichomonas*, **D. V. Matilla;** Relationship of *Trichomonas* to porcine atrophic rhinitis, **N. D. Levine, W. C. Marquardt & P. D. Beamer;** Abolition of immune response to *Trichomonas foetus*, **W. R. Kerr & M. Robertson;** Incidence of *Trichomonas foetus* in Brazilian bulls, **E. X. Rabello;** Vaginal pH and *Trichomonas* infection, **H. Verheye;** Transmission of *Trichomonas vagi-*

nalis, **D. J. M. Bedoya;** Ocular infections with *Trichomonas vaginalis*, **J. T. Weld & B. H. Kean;** Incidence of infection with *Trichomonas vaginalis* in U.S.A., **L. G. Feo;** Vaginal trichomoniasis in monkeys, **E. Eugene, V. Lynch & R. K. Thoms (1);** Infection of the vagina of rats with *Trichomonas vaginalis*, **R. Cavier & X. Mossion (2);** *Giardia* infection in Poland, **C. Germel;** Biology of giardiasis, **A. E. Sokurenko.**

Coccidiosis. — Treatment of coccidiosis, **P. D. Harwood, D. I. Stunz & R. W. Wolfgang (2);** Coccidia in wild birds, **E. Scholtyssek;** Rabbits (Yugoslavia) incidence of infection with *Eimeria*, **V. Nevenić, S. Sibalić & L. Cventković;** Oocyst size in chicken *Eimeria*, **E. R. Becker, W. J. Zimmermann, W. H. Patillo & J. N. Farmer;** Natural infections of *Eimeria* in chickens in Iowa, **W. J. Zimmerman;** Biology of *Eimeria alabamensis*, **L. R. Davis, D. C. Boughton & G. W. Bowman;** *Isospora belli* infections in U.S.A., **G. M. Jeffery (1).**

Malaria. — Problems of malaria, **B. G. Maegraith;** Epidemiology of malaria, **P. F. Russell;** Parasitology of malaria, **G. Covell (1);** Identification of *Plasmodium*, **P. G. Shute;** Examination of mosquitoes for malarial parasites, **J. L. Laffoon;** Morphology of human malarial parasites, **J. W. Field & P. G. Shute;** Identification of human plasmodia, **Anon (3);** Antimalarial campaign in Lourenço Marques, **A. Soiero, M. Pereira & A. Pereira;** Epidemiology of malaria in Limpopo valley, **A. Soeiro;** Incidence of *Plasmodium* infection in French Cameroons, **J. Languillon, J. Mouchet, E. Rivola & J. Rateau;** Incidence of malaria in Sierra Leone, **O. F. Connan & A. Conran;** Incidence of malaria in Gold Coast, **M. J. Colbourne & F. N. Wright (1), (2);** Epidemiology of malaria in Venezuela, **A. Gabaldon;** Incidence of malaria in Kenya, **S. Bell;** High altitude on incidence of human malaria in Tanganyika, **T. Freyvogel (2);** Immunity in malaria, **E. G. Nauck;** Congenital transmission of malaria, **H. Werner (1);** Electrophoresis of serum proteins from

cases of malaria, M. van Sande; Effect of DDT on *Plasmodium* in the insect vector, R. W. Burgess; Effect of *Plasmodium berghei* on reproduction of rodents, H. Werner (2); Influence of *Schistosoma* on *P. berghei*, M. Yoeli; Blood replacement in rats with *P. berghei*, A. Zuckerman; Mechanism of immunity to *Plasmodium berghei*, G. Fabiani & J. Orfila (2); Factors influencing *P. berghei* infections, P. M. Carrescia & E. G. Areoleo; Transmission of *Plasmodium berghei*, B. L. Celaya, E. D. Box & W. D. Gingrich; Immunity to *P. berghei* infections, V. Matilla, J. A. Garrido, A. P. Lorenzo & A. F. Nafria; Schizogony in *P. berghei*, E. Sergeant; Acquired resistance to *P. berghei*, E. Sergeant & A. Poncet (1); Schizogony in *Plasmodium berghei*, E. Sergeant & A. Poncet (3); Relationship of *Plasmodium falciparum* and sickle-cell anaemia, J. H. Walters & L. J. Bruce-Chwatt; Indigenous case of *P. vivax* in Netherlands, C. de Jong & H. Kraan; *Plasmodium* spp. incidence in Belgian Congo, M. Chardome, E. Peel & F. L. Lambrecht; Occurrence and morphology of *P. ovale* in Somalia, R. Moise; Concurrent infection with *Plasmodium relictum* and Western equine encephalitis virus, H. C. Barnett; *P. praecox* in Iraqi sparrows, A. H. Al-Abbass; Effect of high altitude on *P. gallinaceum*, T. Freyvogel (1).

Piroplasmosis. — Theileriosis due to new species from Zululand, W. O. Neitz (2); Theileriosis in Belgian Congo, P. Wery; Control of babesias, J. Carmichael.

Other Sporozoa. — Histopathology of *Leucocytozoon* in turkeys, J. W. Newberne; Myxosporidia of some American fishes, P. A. Meglitsch; *Sarcocystis* in Canadian moose, A. E. Allin; Incidence of *Sarcosporidia* in Polish pigs., E. Prost.

Ciliates. — Review of balantidiasis, V. M. Anean & E. Koppisch.

Toxoplasmosis. — Toxoplasmosis (general), D. N. Zasuthin; Morphology and biology of *Toxoplasma*, L. Jacobs; Diagnosis of toxoplasmosis, H. F. Eichenwald; Diagnosis of toxoplasmosis, Z. Kozar (3); The dye-test

for *Toxoplasma*, G. E. Pangales, M. Pavlatos & P. Mercier; Diagnosis of toxoplasmosis by "dye-test", C. L. Gibson, D. E. Eyles, N. Coleman & C. S. Smith; Variability of dye-test for toxoplasmosis, M. Goldman; Droplet transmission of toxoplasmosis, H. Kunert & L. Schmidtke; Oral transmission of toxoplasmosis, L. Schmidtke; Congenital transmission of toxoplasmosis, R. A. de A. Cardoso, F. N. Guimaraes & A. P. Garcia; Toxoplasmosis in children, J. Paul & R. Schlanstedt; Familial toxoplasmosis, H. A. Feldman & L. T. Miller (2); *Toxoplasma* in newborn twins, H. Fendel; Isolation of *Toxoplasma* from four human cases in Chile, E. Thiermann & F. Naquira; Isolation of *Toxoplasma*, F. Roger; Epidemiology of toxoplasmosis, H. de Roever-Bonnet; Incidence of toxoplasmosis in Colombia, G. Vanela, E. Roch & L. Palencia; Incidence of toxoplasmosis in America, H. A. Feldman & L. T. Miller (1); Incidence of *Toxoplasma* in Spain, C. S. Durall & F. Vilardell; Incidence of toxoplasmosis in Spain, C. Soler Durall & F. Vilardell Vinäs; Generalized toxoplasmosis in the rat, T. Hellbrügge, W. Spiegler & W. Grewing; *Toxoplasma* in rats, P. H. van Thiel (2); Infection of *Citellus citellus* with *Toxoplasma*, T. Simitich, Z. Petrovitch & A. Bordjochki (1); Toxoplasmosis in dogs, R. Lainson; Toxoplasmosis in animals in Canada, T. J. Hulland; Toxoplasmosis in wild and domestic animals, J. A. Morris, C. G. Aulisir & J. M. McCown; Toxoplasmosis in pigs, V. L. Sanger & C. R. Cole; Toxoplasmosis and hibernation, T. Simitich, Z. Petrovitch & A. Bordjochki (2); Size of inocula in toxoplasmosis, D. E. Eyles & N. Coleman (4); Preservation of *Toxoplasma* by freezing, D. E. Eyles, N. Coleman & D. J. Cavanaugh; Pathogenicity of *Toxoplasma*, J. K. Frenkel; Laboratory ocular toxoplasmosis, G. Varela, E. Roch & J. Torroella; Serological studies of *Toxoplasma* from the gondi, C. Vermeil (1); Comparison of *Toxoplasma* antigens prepared by different methods, W. Weigand; *Toxoplasma* antigen from duck embryos, J. G. Heyl & R. Gispen; *Toxoplasma* antibody and properdin, H. A. Feldman;

Immunity in experimental toxoplasmosis, E. C. Cutchins & J. Warren; Concentration of *Toxoplasma* antigen, S. C. Marshall & R. Pillinger; Serological affinities of *Toxoplasma* and *Sarcocystis*, C. Moscovici; Lysergic acid diethylamide in *Toxoplasma* infected mice, G. Varela, A. Vazquez & J. Torroella.

Protista insertae sedis.—Effect of cortisone on *Pneumocystosis*, A. Linhartová; *Pneumocystis* in guinea pigs, A. Sotero-Cabral; Isolation of *Pneumocystis* from premature infants in Chile, T. Pizzi (2); Transmission of anaplasmosis, P. L. Piercy; Diagnosis of anaplasmosis, D. W. Gates & T. O. Roby; Anaplasmosis in sheep in U.S.A., E. J. Splitter, M. J. Twichaas & E. R. Castro.

Chemotherapy. — Action of trichomycin on protozoa, S. Hosoya; Action of trypanocidal drugs during barbiturate narcosis of mice, M. Petrú & M. Vojtěchovska (2); Effect of chloramphenicol and analogues on *Entamoeba histolytica* and *Trichomonas*, I. de Carneri (4); Chemotherapy of amoebiasis *in vitro*, W. Balamuth (1); Chemoprophylaxis of amoebiasis, P. C. Beaver, etc. (2); Treatment of amoebiasis, A. R. D. Adams; Amoebicidal activity of new substance, biallylamical, P. E. Thompson, J. W. Reinertson, D. A. McCarthy, A. Bayles & A. R. Cook; Effect of antibiotics on *Entamoeba histolytica in vitro* and *in vivo*, P. E. Thompson, etc.; Laboratory evaluation of the activity of amoebicides, P. E. Thompson; Chemotherapy of amoebiasis, A. W. Woodruff, S. Bell, F. D. Schofield; Effect of alkaloids on *Entamoeba histolytica*, H. Mühlpfordt & R. Martinez-Silva; Mantomide on *Entamoeba histolytica*, E. W. Dennis & D. A. Berberian; Cortisone on entamoebae, L. Lamy & V. Molinari (2); Comparison of *in vitro* and *in vivo* tests of amoebicides, J. E. Lynch, B. J. Bamforth & D. Geockeritz; Oxysteroids on *Entamoeba histolytica*, H. Seneca & E. Bergendahl; Amoebicidal action *in vitro* of a fluorenone, A. B. Stam & P. H. van Thiel; Action of drugs on *Leishmania enriettii*, J. O. Coutinho (2); New method for screening drugs

against leishmaniasis, E. M. Franchino, J. Grun & L. A. Stauber; Action of puromycin on *Trypanosoma*, C. Trincão, A. R. Nogueira & T. A. Franco; Chemotherapy of human trypanosomes from Belgian Congo, F. Evens & C. Niemegeers; Antagonism of trypanocidal action of puromycin, R. I. Hewitt, A. R. Gumble, W. S. Wallace & J. H. Williams (2); Trypanocidal activity of puromycin analogues, R. I. Hewitt & A. R. Gumble; Chemotherapy of trypanosomiasis, G. F. Otto, J. C. Moetsch & R. U. Schoek; New antibiotic on experimental trypanosomiasis, A. Packchianian; Phenanthridines on *Trypanosoma* spp., G. Woolfe; Prophylactic effect of suramin complexes in trypanosomiasis, J. Williamson & R. S. Desowitz; Chemoprophylaxis of bovine trypanosomiasis, T. I. Watkins & G. Woolfe; Puromycin on *Trypanosoma*, C. Trincão, A. Nogueira & A. Franco; Trypanocidal activity of amino nucleoside of puromycin, E. J. Tobie & B. Highman; Cortisone on *Trypanosoma cruzi*, M. Rubio D (1); Cortisone on *Trypanosoma cruzi*, P. T. Pizzi & T. Chemke S.; Isoniazid on *Trypanosoma cruzi*, N. Botafogo Goncalves, B. M. Tavares & E. da Silva Carmo; Action of stilbamidine on *T. rhodesiense*, J. D. Fulton & P. T. Grant (1); Puromycin on *Trypanosoma gambiense*, C. Trincão, A. R. Nogueira & L. T. de Almeida Franco; Puromycin analogues on *Trypanosoma equiperdum*, R. I. Hewitt, A. R. Gumble, W. S. Wallace & J. H. Williams (1); Monothiourea derivatives on *Trypanosoma equiperdum*, M. Volini, R. K. Stubbs & N. Ercoli; Mixed oxyphenarsine-resistant and normal *Trypanosoma equiperdum* in the rat, W. Cantrell; Erythromycin on *Trypanosoma evansi*, L. Bellelli; Largactil on *Trichomonas*, J. Dutkiewicz; Trichomycin on *Trichomonas vaginalis*, M. Magara, E. Yokouti, T. Senda & E. Amino; Chemotherapy of *Trichomonas vaginalis*, J. E. Lynch, E. C. Holley & J. E. Margison; Anisomycin on *Trichomonas vaginalis*, J. E. Lynch, E. C. Holley & A. M. Solmirs; Furazolidone in the treatment of pigeon trichomoniasis, R. M. Stabler; Anisomycin on *Trichomonas foetus*,

J. E. Lynch, A. R. English, J. Morrison & I. Maven; Nitrofurazone as a coccidiostatic agent, P. D. Harwood, D. I. Stunz & R. W. Wolfgang (1); Effect of nitrofurazone on coccidiosis in sheep, J. Deom & J. Mortelmans; Furacin on ovine and caprine coccidiosis, C. Tarlatzis, A. Panetsos & P. Dragonas; Effect of furacin on *Eimeria necatrix*, R. F. Shumard; Pyrimidines and triazines on *Eimeria tenella*, R. E. Lux; Potentiation between pyrimethamine and sulphadimethyl-pyrimidine against *Eimeria tenella*, S. B. Kendall & L. P. Joyner; Nicarbazin on chicken coccidiosis, A. C. Cuckler & C. M. Malanga; Action of pyrimethamine and sulphadimidine on *Eimeria tenella*, L. P. Joyner & S. B. Kendall; Arsonic acid analogue on *Eimeria tenella*, N. F. Morehouse & F. McKay; Nicarbazin on *Eimeria tenella*, C. W. Barber; Nivaquin and acquired resistance to *Plasmodium berghei*, E. Sergeant & A. Poncet (1); Sulphonamide treatment of mouse malaria, G. Fabiani & J. Orfila (1); Effect of alkaloids on *Plasmodium berghei*, R. Hamet; Effect of chloroquin and primaquin on *Plasmodium berghei*, Perez-Reyes, R.; Effect of a nitrogen mustard on *Plasmodium gallinaceum* and *P. berghei*, G. Cardinali & P. M. Carrescia; No potentiation between quinine and pyrimethamine in *Plasmodium gallinaceum*, A. Bishop; Effect of drugs on sporogony of *Plasmodium gallinaceum*, L. A. Terzian; Action of pyrimethamine and primaquin on *Plasmodium gallinaceum*, F. de la Jara; Chloroquin resistance in *Plasmodium gallinaceum*, A. P. Ray & G. K. Sharma; Drug resistance in *Plasmodium gallinaceum*, J. Greenberg & H. W. Bond; Rauwolfia alkaloids on *Plasmodium gallinaceum*, R. Rama Rao & M. Sirsi; Primaquin-pyrimethamine combinations against *Plasmodium relictum*, G. Soberon y Parra, & R. Perez Reyes; Proguanil resistance in *Plasmodium falciparum*, A. B. G. Laing; Effect of drugs on *Plasmodium falciparum* gametocytes, G. M. Jeffery, M. D. Young & D. E. Eyles; Relapses of *Plasmodium vivax* after chloroquin treatment, G. M. Jeffery (3); Pyrimethamine and sulphadiazine on *Toxoplasma*, D. E.

Eyles & F. E. Jones; Sulphonamides on *Toxoplasma*, D. E. Eyles & N. Coleman (3); Chemotherapy of toxoplasmosis, D. E. Eyles; Treatment of murine toxoplasmosis D. E. Eyles & N. Coleman (1); Synergism between pyrimethamine and sulphadiazine on *Toxoplasma*, D. E. Eyles & N. Coleman (2); Triazines on *Toxoplasma*, W. D. Winter & G. E. Foley; Chlorpromazine on *Toxoplasma*, M. Dolezal, Z. Przybylkiewicz & J. Starzyk; Chemotherapy of *Babesia rodhaini*, A. E. R. Taylor, R. J. Terry & D. G. Godfrey; Treatment of anaplasmosis, J. G. Miller.

DISTRIBUTION

(a) GEOGRAPHICAL

General. — Geographical distribution of *Nebela*, L. Decloitre (3); Distribution of *Paramoecium caudatum*, L. C. Gilman (1).

1. Land and Freshwater.

Palaearctic Region. Arctic Islands. —Lists of Polar Thecamoebians, L. Decloitre (5). **Europe.** —Freshwater protozoans from the Hereford area, England, E. J. Perkins (2); Soil protozoa near Kortenhoef, Holland, F. de Graaf (1); Plankton of the Netherlands, P. Leentvaar; Protozoa of the "Dolomites", Italy, G. Marcuzzi; Soil protozoa in Central Europe, H.-G. Petzold; Plankton of Lake Gribso, K. Berg & I. C. Petersen; Protozoa in well-waters of Prague, V. Řeháčková; Lake-shore plankton of Heiddensee Island, Switzerland, H. D. Münch; Soil protozoa in Roumania, I. Lepsi; Rhizopoda from the Netherlands, F. de Graaf (2); Slime moulds in the Netherlands, A. J. M. Garjeanne; Testacea and Heliozoa of the Netherlands, M.-C. Haecck; Soil rhizopods in Holland, H. R. Hoogenraad & A. A. de Groot; Rhizopods from Belgium, P. van Oye (2) & D. Chardez (2); Thecamoebians in France, R. Thomas & J. Mabile; P. Nectroux; Soil protozoa of Czechoslovakia, M. Ertl (2); Rhizopoda from slag in Czechoslovakia, K. Rosa; Rhizopoda of the Danube, M. Ertl (1); Moss-rhizopods of Silesia, E. Bartos; Marine flagellates from Plymouth, M. Parke,

I. Manton & B. Clarke; *Dinobryon crenulatum* in Danish ponds, B. Asmund; *Synura* in Denmark, J. B. Petersen & J. B. Hansen; Brackish and fresh-water flagellates in Finland, M. R. Droop; Dinoflagellata from the Neusiedler Sea, Austria, J. Schiller (1); Euglenids of Neusiedler Sea, J. Schiller (2) & A. Diskus (1); English records of peritrichids on aquatic insects, J. Green; Brackish-water ciliates of Cheshire, England, M. G. Webb; Ciliates of the Pas-de-Calais area, D. Chardez (3); Plankton of Lake Zurich, F. Nipkow; Suetoria in Germany, S. Husmann; Ciliates in Hungary, B. Vörösváry; *Vorticella* in Czechoslovakia, V. Moravcova-Hassdentenflová; Moss ciliates from Central Europe, J. Gellért; Ciliates of Central Europe, R. Šrámek-Hušek (1). *N. Africa*.—Protozoa of Mauritania, P. L. Dekeyser & A. Villiers. *Japan*.—Zooplankton of Ozegahara Lake, Japan, M. Uéno; Fresh-water rhizopods from Japan, K. Yamamoto; Elphidiid foraminifera in Japan, Y. Fujita; *Paramecium* in Japan, S. Hayashi.

Oriental Region.—*India*; *Ceylon*.—Protozoa of Errakuppan Reservoir, Madras, S. V. Ganapati; Foraminifera of Indian shore sands, S. B. Bhatia (1); Ciliates of the millipedes of the Bombay area, K. R. Karandikar & S. G. Rodgi.

Australian Region and Polynesia.—*New Zealand*.—New thecamoebians from New Zealand, P. van Oye (3); Freshwater ciliates from New Zealand, R. E. Barwick, etc.

Ethiopian Region.—*Africa*.—Protozoa of Lake Tanganyika, H. Kufferath (2); Protists of the Lower Congo area, H. Kufferath (3); Rhizopoda of British East Africa, A. L. Decloitre; Rhizopoda from Senegal, E. Decloitre; Thecamoebians from French West Africa, L. Decloitre (1); Brackish water foraminifera in Zululand, Y. H. Smither; West African Monocystids, parasitic in Oligochaetes, O. Tuzet & M. Vogeli (1).

Nearctic Region.—*United States*.—Protozoa of Pymatuning Lake, Penn-

sylvania, H. D. Orr; Euglenids of an Iowan pond, L. P. Johnson; *Dileptus beersi* sp. n. in the U.S.A., E. E. Jones. *South America*.—Testacea in Venezuela, P. van Oye (1); Thecamoebids from Venezuela, L. Decloitre (4); Thecamoebians of the Rio de la Plata, E. Boltovzskoy (1); Salt and freshwater protozoa of Brazilian coastal lagoons, L. de Oliveira, R. Nascimento & L. Krau.

2. Marine.

Arctic.—Russian marine foraminifera, Z. G. Shchedrina (2); Foraminifera of the Levanev depression, Arctic Ocean. N. A. Belov & N. N. Lapina; Foraminifera of Alaskan coasts, A. J. Carsola; *North Atlantic*.—Protozoa of the Whitstable coastal areas, England, A. M. el Maghraby & E. J. Perkins; Plankton of the Danish coast, J. Grøntved; Plankton of Long Island Sound, S. A. MacM. Conover; North Atlantic planktonic foraminifera, F. L. Parker; New species of *Gymnodinium* from the English Channel, D. Ballantine; Atlantic dinoflagellates, K. R. Gaardner (2); Atlantic Cocolithinae, K. R. Gaardner (1); Norwegian marine ciliates, P. Fjeld; *Mediterranean and Black Sea*.—Marine plankton off Algerian coasts, F. Bernard; Protozoa at Bari, Italy, G. Sangiorgi, F. Chaputi & M. Chemicuti; Mediterranean planktonic foraminifera, F. L. Parker; Foraminifera of the Algerian coast, J. Bourcart. *North Pacific*.—North-west Pacific plankton, L. I. Smirnova; Foraminifera of the Californian continental slope, G. D. Hanna; Foraminifera of the Salton Sea, California, R. E. Arnal; Foraminifera of North Pacific, Z. G. Shchedrina (1) & (3); Foraminifera of Japanese coastal areas, Y. Takayanagi; H. Ujiie (1) & (2); Intertidal foraminifera of the Tokara Islands, Y. Kuwano; Foraminifera of Tokyo Bay, M. Morishima; Radiolaria of North Pacific, V. A. Dogel'v & V. V. Reshetnyak; Radiolaria of the North Pacific, V. V. Reshetnyak; Heterotrichids of North Pacific, A. A. Strelkov.

Tropical.—*Atlantic*.—Foraminifera of the West Indies, J. Hotker (5); Foraminifera of the Bahamas, L. V. Illing; Foraminifera of Mississippi

Sound, F. B. Phleger (1); Foraminifera of Gulf of Mexico, O. L. Bandy (1); Foraminifera of the northeastern Gulf of Mexico, O. L. Bandy (2); Foraminifera of Central Texas coast, F. B. Phleger (3); Foraminifera of the Senegal coast, G. Colom (8); Radiolaria of Portuguese West African coast, J. de S. Pinto; Dinoflagellates of the Dakar coast, E. de Sousa e Silva (2); *Excuvella baltica* and "red tides" on Portuguese West African coasts, E. de S. de Silva (1); Tintinnids of the Dakar coast, E. de Sousa e Silva (2). *Indo-Pacific*.—*Ammobaculites* in Californian coastal waters, G. L. Harrington; Foraminifera from the Marshall Islands, J. A. Cushman, R. Todd & R. J. Post; Radiolaria of East Pacific, G. Arrhenius & N. Blomquist.

Antarctic.—New Antarctic suc-torians, C. Allgén.

(b) GEOLOGICAL

General.—Practical value of protozoan fossils, H. E. Thalmann (1); Fossil protozoa in oil geology, E. N. Tiratsoo; Fossil microplankton in Australian rocks, G. Deflandre & I. C. Cookson (1); Micro-organisms in accumulating sediments, G. Siebert & W. Schwartz; Iron bacteria as rock-forming organisms, M. W. Strong; Phyletic sequence in Nummulites, R. Abrard (1); Taxonomy of foraminifera, D. M. Rauser-Chernousova (2); Types of Lamarck's foraminiferal genera, A. R. Loeblich (3); Migration of *Fabularia* DeFrance, A. C. Collins; Foraminiferal migration, I. Crespin (2); Evolutionary trends in larger foraminifera, C. W. Drooger (5); Damaged foraminiferal tests, A. Earland; Wall-structure of Kainozoic foraminifera, V. A. Krashinnikov; Chalcedony in foraminiferal tests, A. K. Bogdanovich & R. G. Dmitrieva; Biogeochemistry of strontium, H. J. M. Bowen; Magnesium in marine protozoan tests, K. E. Chare; Accumulation rates of nitrogen and calcium carbonate on Equatorial Atlantic floor, J. D. E. Wiseman; Conversion of calcite to fluo-rite, J. F. Grayson; Mineralogy of fossil protozoans, G. S. Switzer & A. J. Boucot; Temperature and

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Centropyxis aculeata var. n. *intermedia* (p. 338); *C. orinokii* sp. n. (p. 341) freshwater, Venezuela, P. van Oye (1); *C. aculeata* var. n. *lata* (p. 239), *C. aerophila* var. n. *cornata* (p. 248), *C. sexilata* sp. n. (p. 245), Africa, L. Decloitre (1); *C. aerophila* var. n. *globulosa* (p. 414); *C. plagiotoma* sp. n. (p. 415); *C. p. var. n. terricola* (p. 415); *C. sylvatica* (Deflandre) comb. n. (p. 415) [for *C. aerophila* Defl. var. *sylvatica*]; *C. s. var. n. minor* (p. 416); soil, L. Bonnet & R. Thomas; *C. bacillifera* sp. n. (p. 328); *C. deflandrei* sp. n. (p. 331); *C. laevigata* var. n. *alta* (p. 333); Venezuela, L. Decloitre (4); *C. longispina* sp. n. (p. 24) Greenland, L. Decloitre (5) [corrected from *spinosa* in author's personal handwriting].

Cyclopyxis armata, *pseudolaevigata*, *deflandrei* spp. n. (p. 342), freshwater, Venezuela, P. van Oye (1).

Diffugia acuminata var. n. *brevicaulis* (p. 30) France, R. Thomas & J. Mabile; *D. carinata* sp. n. (p. 18), New Zealand, P. van Oye (3); *D. chauchonia* sp. n. (p. 12); Greenland, L. Decloitre (5); *D. polliciformis* sp. n. (p. 346) freshwater, Venezuela, P. van Oye (1).

Diffugiella oviformis (Penard) comb. n. (p. 418) [for *Cryptodiffugia oviformis* Penard 1890], soil; L. Bonnet & R. Thomas.

Euglypha acanthopora (Ehrenberg) Perty var. n. *deflandrei* (p. 326); *E. tuberculata* var. *minor* forma n. *subcylindrica* (p. 326); Venezuela, L. Decloitre (4); *Euglypha rotunda* forma n. *obliqua* (p. 255), Africa, L. Decloitre (1).

Geopyxella gen. n. *sylvicola* sp. n. (p. 419) (genotype), soil, France, L. Bonnet & R. Thomas.

Heleopera penardi sp. n. (p. 419) [includes *H. petricola* emend. Leidy]; *H. petricola* var. n. *humicola* (p. 419) soil, L. Bonnet & R. Thomas.

Lesquereusia modesta var. n. *minima* (p. 348) freshwater, Venezuela, P. van Oye (1).

Nebela deflandrei sp. n. (p. 335) Venezuela, L. Decloitre (4); *N. subsphaerica* sp. n. (p. 25); *N. wailesi* var. n. *magna* (p. 28); New Zealand, P. van Oye (3).

Plagiopyxis declivis sp. n. (p. 420); *P. d. var. n. oblonga* (p. 421); *P. penardi* sp. n. (p. 421); soil, L. Bonnet & R. Thomas.

Pontigulasia gessneri sp. n. (p. 347) freshwater, Venezuela, P. van Oye (1).

Pseudopontigulasia gen. n. (p. 347) *gessneri* sp. n. (p. 347) freshwater, Venezuela, P. van Oye (1).

Quadrullella elongata sp. n. (p. 352) freshwater, Venezuela, P. van Oye (1).

Schwabia terricola sp. n. (p. 422), soil, L. Bonnet & R. Thomas.

†*Silicoplaentina* gen. n. (p. 269) *hungarica* sp. n. (p. 270) (genotype), *S. inflata*, *majzoni* spp. n. (p. 270), *S. irregularis* sp. n. (p. 271) Upper Tertiary, Hungary, J. Kovary.

Tracheleuglypha acolla sp. n. (p. 422); *T. a. var. n. aspera* (p. 422); soil, L. Bonnet & R. Thomas.

(c) Foraminifera.

Systematics of the foraminifera, J. Hofker (5).

†New foraminifera from Russian Devonian, E. R. Bykova.

†New Upper Palaeozoic foraminifera from Britain, R. H. Cummings (2).

†New Upper Palaeozoic foraminifera in Russia, O. A. Lipina & E. A. Reitlinger.

†New but undescribed foraminifera in Russian Upper Palaeozoic, A. D. Miklukho-Maklai.

†New but undescribed foraminifera from the Japanese Upper Palaeozoic, R. Toriyama.

†New Russian Carboniferous foraminifera, H. E. Brazhnikova & M. V. Yartseva; D. M. Rauser-Chernousova (1).

†New Carboniferous fusulinids from Japan, K. Kanmera (1).

†New Permian foraminifera from Yugoslavia, V. Kochansky-Devide & A. Ramovs.

†New Permian fusulinids from Japan, K. Kanmera (2); R. Morikawa.

†New Mesozoic foraminifera from Azerbaidzhan, Ch. A. Tairov.

†New Jurassic foraminifera from Austria, R. Weyschenk (2).

†New figured but not fully described foraminifera from the Russian Jurassic, O. K. Kaptarinko-Chernoussova.

†New Cretaceous foraminifera in Italy, E. M. Gallitelli (4).

†New Cretaceous foraminifera in Egypt, R. Said & A. Kenaway.

†New Cretaceous foraminifera from Middle East, A. H. Smout.

†New Cretaceous foraminifera from Canada, G. B. Mellon & J. H. Wall.

†New but undescribed foraminifera from the American Cretaceous, W. A. Fischer.

†New Cretaceous foraminifera from Gulf Coast, U.S.A., E. R. Applin.

†New Upper Cretaceous foraminifera, E. M. Gallitelli (7).

†New Upper Cretaceous foraminifera from Germany, J. Hofker (4).

†New Upper Cretaceous foraminifera from Cuba, P. Bronnimann (2).

†New Tertiary foraminifera from Spain, G. Colom (5).

†New Tertiary foraminifera from Russia, E. V. Mjatluk.

†New Tertiary larger foraminifera from Bikini Atoll, W. S. Cole.

†New Tertiary foraminifera from Saipan, R. Todd (5).

†New Tertiary foraminifera from Japan, S. Iwasa.

†Tertiary foraminifera from Colombia, V. Petters & R. Sarmiento.

†New Paleogene foraminifera from Russia, E. K. Shetskaya.

†New Palaeogene foraminifera from Morocco, M. Rey (2).

†New Palaeogene foraminifera in Egypt, R. Said & A. Kenawy.

†New British Palaeocene foraminifera, J. Haynes.

†New Paleocene foraminifera from Maryland, U.S.A., J. Hofker (2).

†New Paleocene foraminifera from Trinidad, B.W.I., P. Bronnimann (1).

†New Eocene foraminifera from Turkey, A. Dizer.

†New Oligocene foraminifera from France, F. Gullentops.

†New Oligo-Miocene foraminifera from South America, W. H. Blow.

†New Neogene foraminifera in Italy, E. Perconig (2).

†New Miocene foraminifera from Poland, E. Luzykowska (2); J. Matecki.

†New Miocene foraminifera from Japan, S. Iwasa & Y. Kikuchi.

†New late Kainozoic foraminifera from Brazil, S. Petri.

†New Pliocene foraminifera from Italy, E. Perconig (3).

†Recent foraminifera from the Marshall Islands, J. A. Cushman, R. Todd & R. J. Post.

New foraminifera from the West Indies, J. Hofker (5).

New foraminifera from the North Pacific, Z. G. Shchedrina (3).

Brackish water foraminifera in Zululand, Y. H. Smitter.

†*Alabamina conica* sp. n. (p. 295), Eocene, Saipan, R. Todd (5).

†*Alliatina* gen. n. (p. 464) (genotype *Cushmanella excentrica* Alliatina 1952) Pliocene, J. C. Troelsen.

†*Ammobaculites greenhornensis* sp. n. (p. 10) [nom. nud.] Cretaceous, Colorado, W. A. Fischer; †*A. pyreniacus* sp. n. (p. 359), Eocene, Pyrenees, M. Ruiz de Gaona & G. Colom; †*A. schwageri* sp. n. (p. 121), Palaeocene, Egypt, R. Said & A. Kenawy.

†*Ammodiscus spirillinaformis* sp. n. (p. 113) [figured but not separately described] Mesozoic, Azerbaidzhan, Ch. A. Tairov.

†*Ammodiscoides kumaensis* sp. n. (p. 82) Paleogene, Russia, E. K. Shetskaya.

†*Amphistegina madagascariensis* d'Orb.; notes thereon, R. Todd (5).

†*Anomalina misrensis* sp. n. (p. 153) Lower Eocene, Egypt, R. Said & A. Kenawy.

†*Anomalina* ? *maculosa* sp. n. (p. 296), Recent, Saipan, R. Todd (5).

†*Anomalinoides nakkadyi, suturatus, sinaensis* spp. n. (p. 154), Cretaceous, Egypt, R. Said & A. Kenawy.

†*Archaeodiscus glomus* sp. n. (p. 74); *A. electus* sp. n. (p. 75); *A. spectabilis* sp. n. (p. 76); *A. matutinus, approximatus* spp. n. (p. 77); *A. rhombiformis* sp. n. (p. 78); Carboniferous, Russia, R. A. Ganelina.

†*Arenobulimina aegyptica* sp. n. (p. 126), Cretaceous, Egypt, R. Said & A. Kenawy.

†*Arenoturrspirillina* gen. n. (p. 114) *aptica* sp. n. (p. 115) [?genotype] Mesozoic, Azerbaidzhan, Ch. A. Tairov.

†*Arnoldia* gen. n. *antiqua* sp. n. (p. 2584) (genotype) Pre-Cambrian, Ivory Coast, R. Hovasse.

†*Asterigerina aberystwythi* sp. n. (p. 97) Paleocene, Britain, J. Haynes; †*A. fimbriata* sp. n. (p. 296), Eocene, Saipan; *A. venusta* sp. n. (p. 297), Miocene, Saipan, R. Todd (5); †*A. paralleloides* sp. n. (p. 177), Tertiary, Spain, G. Colom (5); †*A. praeplanorbis* sp. n. (p. 348), Oligocene, Germany, H. Hagn (4).

†*Asterigerinata*; review of, P. J. Bermudez.

†*Asterigerinata cubensis* sp. n. (p. 202), Oligocene, Cuba; *A. guerrai* sp. n. (p. 204), Eocene, Cuba; *A. globulospinosa* (Cushman) var. n. *glabra* (p. 205), Eocene, Mississippi; P. J. Bermudez.

†*Aulotortus* gen. n. (p. 26) *sinuosus* sp. n. (p. 27) (genotype), Jurassic, Austria, R. Weynschenck (2).

†*Austrotrillina brunni* sp. n. (p. 203) Oligo-Miocene, Greece, P. Marie (2).

†*Baggina parva* sp. n. (p. 297) Miocene, Saipan, R. Todd (5); †*B. teninensis* sp. n. (p. 76), Eocene, Washington, W. W. Rau.

†*Baituganella* gen. n. (p. 19) *chernyshinensis* sp. n. (p. 20) (genotype); *B. vulgaris* sp. n. (p. 20); Upper Palaeozoic, Russia, O. A. Lipina.

†Barkerinidae fam. n. (p. 342), A. H. Smout.

†*Barkerina* gen. n. (p. 5) *barkerensis* sp. n. (p. 6) (genotype) Cretaceous, Missouri, D. L. Frizzell & E. Schwartz.

†*Bdelloidina vincenttownensis* sp. n. (p. 7) Paleocene, Maryland, J. Hofker (2).

†*Begia* gen. n. (p. 339) *gyra* sp. n. (p. 340) (genotype); *B. conica* sp. n. (p. 340); *B. concava, calcarata, perforata, convexa* spp. n. (p. 341); *B. glomerulata* sp. n. (p. 342); Cretaceous, Middle East, A. H. Smout.

†*Bifarina antiqua* sp. n. (p. 144) Cretaceous, Egypt, R. Said & A. Kenawy.

†*Biorbulina* gen. n. (p. 69) (genotype) *Globigerina bilobata* d'Orbigny 1846) Oligo-Miocene, Venezuela, W. H. Blow.

†*Bisphaera minima, grandis* spp. n. (p. 18) Upper Palaeozoic, Russia, O. A. Lipina.

†*Bolivina basbeckensis, hiltermanni* spp. n. (p. 68) Upper Cretaceous, Germany, J. Hofker (4); †*B. decurrens* var. n. *parallela* (p. 143). Cretaceous, Egypt, R. Said & A. Kenawy; †*B. densa* sp. n. (p. 297) Miocene, Saipan; *B. subrhomboidalis* sp. n. (p. 297) Eocene, Saipan, R. Todd (5); †*B. rhombica* sp. n. (p. 91); *B. striatula* var. n. *angulata* (p. 93); Kainozoic, Brazil, S. Petri; *B. spatuloides* sp. n. (p. 66); *B. pseudo-goessii* sp. n. (p. 69), Recent, West Indies, J. Hofker (5).

†*Bolivinita bandyi* sp. n. (p. 141) Cretaceous, Egypt, R. Said & A. Kenawy.

†*Bolivinoides ouezzanensis* sp. n. (p. 210) Paleocene, Morocco, M. Rey (2).

†*Bolivinopsis minuta* sp. n. (p. 138) Cretaceous, Egypt, R. Said & A. Kenawy.

Botellina spiculotesta sp. n. (p. 84)
North Pacific, Z. G. Shehedrina (3).

†*Bradyina ferganica* sp. n. (p. 1153) [nom. nud.] Upper Palaeozoic, Russia, A. D. Miklukho-Maklai.

†*Bronnimannella* gen. n. (p. 35) (genotype *Gümbelina plummerae* Loetterle 1937) [*Bronnibrownia* Gallitelli 1955 listed as synonym] Upper Cretaceous, E. M. Gallitelli (7).

†*Bulimina aculeata* var. n. *porrecta* (p. 148), Miocene, Poland. E. Luezkowska (2); †*B. aspensis* sp. n. (p. 179), Tertiary, Spain, G. Colom (5); †*B. carmenensis* sp. n. (p. 29), Lower Miocene; *B. dentoni* sp. n. (p. 29) Upper Oligocene; Colombia, V. Petters & R. Sarmiento; †*B. gibba* var. nom. n. *corsiniana* (p. 258) [for *Bulimina fusiformis* var. *baccata* Fornasini] Pliocene, Italy, E. Perconig (3); †*B. honjōensis* sp. n. (p. 16), Tertiary, Japan, S. Iwasa.

†*Carbonella spectabilis* var. n. *crassa* (p. 41), Upper Palaeozoic, Russia, O. A. Lipina.

†*Cassidulina gemma, marshallana* spp. n. (p. 366) [authorship to Todd] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post.

Ceratobulimininae; revision thereof, J. C. Troelsen.

†*Ceratocancris*; re-definition thereof, J. C. Troelsen.

†*Ceratolamarkina* subgen. n. (p. 456) [of *Ceratobulimina*] (subgenotype *C. tuberculata* Brotzen 1948); *C. jutlandica* sp. n. (p. 456), Paleocene, Denmark, J. C. Troelsen.

†*Charltonina canterburyensis* sp. n. (p. 97) Paleocene, Britain, J. Haynes; †*C. toddae* sp. n. (p. 152), Paleocene, Egypt, R. Said & A. Kenawy.

†*Chernyshinella* gen. n. (p. 47) (genotype *Endothyra glomiformis* Lipina 1948); *C. paraglomiformis, paucicamerata* spp. n. (p. 50); *C. disputabilis* sp. n. (authorship to Dain) (p. 50); *C. tumulosa* sp. n. (p. 51); Upper Palaeozoic, Russia, O. A. Lipina.

†*Chiloguembelina* gen. n. (p. 340) (genotype *Guembelina midwayensis* Cushman 1940) Paleocene and Eocene, A. R. Loeblich jr. & H. Tappan.

Chitinosaccus gen. n. *zuluensis* sp. n. (p. 259) (genotype) brackish water, Zululand, Y. H. Smitter.

†*Chrysalogonium tappanae* sp. n. (p. 134), Cretaceous, Egypt, R. Said & A. Kenawy.

†*Cibicides americanus* var. n. *paraensis* (p. 135); *C. cururuensis* sp. n. (p. 136); Kainozoic, Brazil, S. Petri; †*C. basraensis* sp. n. (p. 211) Oligocene, Morocco, M. Rey (2); †*C. boueanus* var. n. *crassus* (p. 153), Miocene Poland, E. Luckowska (2); †*C. daguerri* sp. n. (p. 113), Eocene, France, M. Neumann (1); †*C. nekhlianus, schwageri, tappanae* spp. n. (p. 155) Cretaceous; *C. loeblichii, megaloperforatus* spp. n. (p. 155) Paleocene; Egypt, R. Said & A. Kenawy; †*C. tani* sp. n. (p. 193), Miocene, Japan, S. Iwasa & Y. Kikuchi; †*C. tuxpamensis* subsp. n. *aspensis* (p. 171); *C. perlucidas* subsp. n. *aspensis* (p. 172); *C. levantinus* sp. n. (p. 174); Tertiary, Spain, G. Colom (5).

†*Clavulina golubjatnikovi* sp. n. (p. 90) Paleogene, Russia, E. K. Shutskeya.

†*Climacammina*; systematics thereof, R. H. Cummings (2).

†*Climacammina supraparva* sp. n. (p. 227); *C. ferra* sp. n. (p. 228); Carboniferous, Great Britain, R. H. Cummings (2).

†*Codonofusiella cuniculata* sp. n. (p. 6), Permian, Japan, K. Kanmera (2).

†*Coxites* gen. n. (p. 342) *zubairensis* sp. n. (p. 343) (genotype), Cretaceous, Middle East. A. H. Smout.

†*Cremisia* gen. n. (p. 50) (genotype *Textularia ? proboscidea* Cushman & Stainbrook 1943); *C. incebrata* sp. n. (p. 53); Devonian, Russia, E. R. Bykova.

Criboelphidium asakense sp. n. (p. 233) Recent, Japan, Y. Fujita; *C. pacificum* sp. n. (p. 273), Recent, Japan, H. Ujiie (2); †*C. tomitai* sp. n. (p. 419) Tertiary, Japan, Y. Tai (3).

†*Cribogenerina*; systematics thereof, R. H. Cummings (2).

†*Cribrostomoides*; emendation thereof, D. L. Frizzell & E. Schwartz.

†*Cribrostomum*; systematics thereof, R. H. Cummings (2).

†*Cribrostomum scoticum* sp. n. (p. 220); *C. wilkiestoni* sp. n. (p. 221); *C. ponielum* sp. n. (p. 222); *C. inflatum*, *linnum*, *oveyi* spp. n. (p. 223); Carboniferous, Great Britain, R. H. Cummings (2).

†*Cristellaria bicostataformis*, *multicava* spp. n. (p. 10) [nomina nuda] Jurassic, Dagestan, G. K. Kasimova, Z. V. Kutznetsova & Z. F. Mikheeva.

†*Cuvillierina* gen. n. *eocenica* sp. n. (p. 55) (genotype), Eocene, France, A. Debourle.

Cyclammina senegalensis sp. n. (p. 35), coast of Senegal, G. Colom (8).

†*Darbyella mimounaensis* sp. n. (p. 210) Eocene, Morocco, M. Rey (2).

†*Deckerella*; systematics thereof, R. H. Cummings (2).

†*Deckerella quadrata* sp. n. (p. 232); Carboniferous, Great Britain, R. H. Cummings (2).

†*Deckerellina*; systematics thereof, R. H. Cummings (2).

†*Dentalina ghorabi* sp. n. (p. 133), Cretaceous, Egypt, R. Said & A. Kenawy.

†*Discorbis celsa* sp. n. (p. 299) Eocene, Saipan; *D. fulva* sp. n. (p. 299) Recent, Saipan, R. Todd (5); †*D. coloradoensis* sp. n. (p. 10) [nom. nud.] Cretaceous, Colorado, W. A. Fischer; †*D. nirrisi* sp. n. (p. 15) Cretaceous, Canada, G. B. Mellon & J. H. Wall; †*D. pentacameratus* sp. n. (p. 229), Tertiary, Russia, E. V. Mjatluk.

†*Discocyclina trabayensis* sp. n. (p. 130), Eocene, France, M. Neumann (3); †*D. senegalensis* sp. n. (p. 237), Eocene, Senegal, R. Abrard (3).

†*Dorothia compacta* sp. n. (p. 299) Eocene, Saipan, R. Todd (5); †*D. sinaensis* sp. n. (p. 128), Lower Eocene, Egypt, R. Said & A. Kenawy.

†*Dunbarinella alpina* sp. n. (p. 380) Permian, Yugoslavia, V. Kochansky-Devidé & A. Ramovs.

†*Dunbarula nana* sp. n. (p. 377) Permian, Yugoslavia, V. Kochansky-Devidé & A. Ramovs.

†*Ellipsoglandulina ellisi* sp. n. (p. 146), Paleocene, Egypt, R. Said & A. Kenawy.

†*Ellipsonodosaria ugoensis* sp. n. (p. 192) Miocene, Japan, S. Iwasa & Y. Kikuchi.

†*Ellipsopleurostomella oligocenica* sp. n. (p. 67), Oligocene, Italy, E. di N. Alliata (2).

†*Elphidium advenum* var. n. *dispar* (p. 346) [authorship to Cushman] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post; †*E. advenum* var. n. *miyatense* (p. 231); *E. bosoense* sp. n. (p. 232); Pleistocene & Recent, Japan, Y. Fujita; †*E. formosurum* sp. n. (p. 299), Recent, Saipan, *E. hyalocostatum* sp. n. (p. 300), Recent, Saipan, R. Todd (5); †*E. semiinvolutum* sp. n. (p. 228), Tertiary, Russia, E. V. Mjatluk. †*Elphidium*? *limbatus* sp. n. (p. 75); *E. paraensis* sp. n. (p. 77); *E. cf. poeyanum* var. n. *elongata* (p. 79); *E. sagrai* var. n. *cururuensis* (p. 80); *E. tropicalis* sp. n. (p. 81); Kainozoic, Brazil, S. Petri.

†*Endothyra inflata* sp. n. (p. 54); *E. nordvikensis* sp. n. (p. 59); *E. recta* sp. n. (p. 60); *E. costifera*, *paracostifera* spp. n. (p. 61); *E. p. var. n. multicamerata* (p. 62); *E. tenuiseptata* sp. n. (p. 63); *E. latipiralis* sp. n. (p. 65); *E. l. var. n. angusta*, *grandis* (p. 66); *E. rjausakensis* var. n. *magna* (p. 67); *E. parakosvensis* sp. n. (p. 68); *E. taimyrica* sp. n. (p. 69); *E. tuberculata* subsp. n. *magna* [authorship to Lipina & Safonova]; *E. crassitheca*, *kosvensis* spp. n. (p. 71); *E. paraukrainica* sp. n. (p. 72); *E. transita* sp. n. (p. 73); *E. infirma* sp. n. (p. 75); Upper Paleozoic, Russia, A. O. Lipina.

†*Entosolenia socuyiensis* sp. n. (p. 273), Cretaceous, Venezuela, J. M. S. de Civrieux (2).

†*Eoflabellina*; systematics thereof, H. Bartenstein.

†*Eolasiiodiscus* gen. n. (p. 75) *donbassicus* sp. n. (p. 76) (genotype), *E. galinae* sp. n. (p. 76), Upper Palaeozoic, Russia, E. A. Reitlinger.

†*Eorupertia cristata* (Gümbel); systematics thereof, H. Hagn (6).

†*Eouvigerina hofkeri* sp. n. (p. 141), Cretaceous, Egypt, R. Said & A. Kenawy.

†*Eovolutina tuimasensis* sp. n. (p. 23), Upper Palaeozoic, Russia, O. A. Lipina.

†*Epistomina elshankaensis* var. n. *poltavica* (p. 60) *E. dneprica*, *ukhligi*, *limbata*, *peregrina*, *decorata*, *mosquensis*, spp. n. (p. 60), *E. mosquensis* var. n. *ukrainica* (p. 60), Jurassic, Russia, O. K. Kaptarinko-Chernoussova.

†*Epistominella takayanagii* sp. n. (p. 17), Tertiary, Japan, S. Iwasa.

Epistomininae; revision thereof, J. C. Troelsen.

†*Epistominoides danica* sp. n. (p. 461) Palaeocene, Denmark, J. C. Troelsen.

†*Eponides carolinensis* var. n. *navarraensis* (p. 377) Eocene, Pyrenees, M. Ruiz de Gaona & G. Colom; †*E. hatakeyamai* sp. n. (p. 192) Miocene, Japan, S. Iwasa & Y. Kikuchi; †*E. mariei*, *sigali* spp. n. (p. 148), Cretaceous, Egypt, R. Said & A. Kenawy; †*E. scheibei* sp. n. (p. 31) & Lower Miocene, Colombia, V. Petters & R. Sarmiento; †*E. spiratus* sp. n. (p. 151), Miocene, Poland, E. Luczkowska (2).

†*Evlania* gen. n. *transversa* sp. n. (p. 20) (genotype); *E. devonica* sp. n. (p. 21); Devonian, Russia, E. R. Bykova.

†*Fissurina circularis*, *milleltii* spp. n. (p. 351) [authorship to Todd] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post.

†*Flabellamminopsis*; systematics thereof, H. Bartenstein.

†*Flabellamminopsis* gen. n. (p. 104) *variabilis* sp. n. (p. 105) (genotype); *F. v.* var. n. α . (p. 106); *F. v.* var. n. β . (p. 106); *F. v.* var. n. δ . (p. 107); *F. planulatus* sp. n. (p. 104); *F. crassus*, *corrugatus*, *tricarinatus* spp. n. (p. 107); *F. t.* var. n. α . (p. 108); *F. t.* var. n. β . (p. 108); *F. turbidus*, *proteus* spp. n. (p. 108); *F. tetracarinatus* sp. n. (p. 109);

F. t. var. n. α . (p. 109); *F. diversiformis* sp. n. (p. 110); Jurassic, Poland, J. Matecki (1)

†*Fron dicularia barlowensis* sp. n. (p. 195), Cretaceous, Gulf Coast, E. R. Applin.

†*Fron dilina* gen. n. (p. 24) *deveaxis* sp. n. (p. 25) (genotype); *F. sororis* sp. n. (p. 26); Devonian, Russia, E. R. Bykova.

†*Fusulina higoensis* sp. n. (p. 133); *F. ohtanii* sp. n. (p. 136); *F. kuriensis* sp. n. (p. 138); Carboniferous, Japan, K. Kanmera (1).

†*Fusulinella gracilis* sp. n. (p. 127) Carboniferous, Japan, K. Kanmera (1).

†*Ganella* gen. n. (p. 187) *neumannae* sp. n. (p. 187) (genotype), Tertiary, France, G. Aurouze & D. Boulanger.

†*Garantella* gen. n. *rudia* sp. n. (p. 60) (genotype), *G. marginata*, *floscula*, *stellata* spp. n. (p. 60), Jurassic Russia, O. K. Kaptarinko-Chernoussova.

†*Gaudryina barlowensis* sp. n. (p. 192), Cretaceous, Gulf Coast, E. R. Applin; †*G. elegantissima*, *limbata* spp. n. (p. 123), Palaeocene; *G. nekhlenis* sp. n. (p. 124), Palaeocene; Egypt, R. Said & A. Kenawy; †*G. kabardinensis* sp. n. (p. 88). *G. zolkaensis* sp. n. (p. 89) Palaeogene, Russia, E. K. Shutskeya; †*G. mcleani* sp. n. (p. 7) Paleocene, Maryland, J. Hofker (2); †*G. supracretacea* sp. n. (p. 64), Upper Cretaceous Germany, J. Hofker (4); †*G. trullissata* sp. n. (p. 331) [authorship to Todd] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post.

†*Gavelinella brotzeni* sp. n. (p. 147), Cretaceous; *G. b.* var. n. *paleocenica* (p. 148), Paleocene; Egypt, R. Said & A. Kenawy; †*G. pertusa* subsp. n. *maestrichtiensis* (p. 73), Upper Cretaceous, Germany, J. Hofker (4).

Gavelinopsis atlantica sp. n. (p. 212), Recent, West Indies, J. Hofker (5); †*G. bartensteini*, *involutiformis* spp. n. (p. 74), Upper Cretaceous, Germany, J. Hofker (4).

†*Geinitzina indigena* sp. n. (p. 22); *G. reperta* sp. n. (p. 24); Devonian, Russia, E. R. Bykova.

†*Glandulina antiqua* sp. n. (p. 137) Cretaceous, Egypt, R. Said & A. Kenawy.

†*Globigerina*; review of, P. Bronnemann (1); †*G. biforaminate* sp. n. (p. 76), Upper Cretaceous, Germany, J. Hofker (4); †*G. eximia* sp. n. (p. 300) Miocene; *G. ? grata* sp. n. (p. 300) Oligocene; *G. nepenthes* sp. n. (p. 301), Miocene; *G. pera* sp. n. (p. 301), Eocene; all Saipan, R. Todd (5); †*G. globorotaloidea* sp. n. (p. 212), Tertiary, Spain, G. Colom (5); †*G. hölzi* sp. n. (p. 50) Cretaceous, Germany, H. Hagn & W. Zeil (1); †*G. lozano* sp. n. (p. 149); *G. aspensis* sp. n. (p. 151); Tertiary, Spain, G. Colom (5); *G. rubescens* sp. n. (p. 234), Recent, West Indies, J. Hofker (5); †*G. soldadoensis* sp. n. (p. 9); *G. gravelli* sp. n. (p. 12); *G. hornbrooki* sp. n. (p. 15); *G. finlayi* sp. n. (p. 18); *G. taroubaensis* sp. n. (p. 18); *G. stainforthi* sp. n. (p. 23); Paleocene, Trinidad, P. Bronnemann (1); †*G. triloba* var. n. *aspera* (p. 125) Kainozoic, Brazil, S. Petri.

†Emendation of *Globigerinoides bispherica* Todd, W. H. Blow.

†*Globigerinoides glomerosa* sp. n. (p. 64); *G. glomerosa* subsp. n. *curva* (p. 64); *G. glomerosa* subsp. n. *glomerosa*, *circularis* (p. 65); *G. transitoria* sp. n. (p. 65); Tertiary, Venezuela, W. H. Blow; †*G. indigena* sp. n. (p. 152), Miocene, Poland, E. Luczkowska (2); †*G. mitra* sp. n. (p. 302) Miocene, *G. pseudorubra* sp. n. (p. 303) Oligocene, Saipan, R. Todd (5).

Globobulimina aperta sp. n. (p. 56), Recent, West Indies, J. Hofker (5).

†*Globorotalia*; status thereof, J. Hofker (3).

†*Globorotalia angulata* var. n. *kubanensis* (p. 93), *G. a.* var. n. *praepentacamerata* (p. 94), *G. nartanensis* sp. n. (p. 96), *G. praenartanensis* sp. n. (p. 98), Paleogene, Russia, E. K. Shutskeya; †*G. velascoensis* var. n. *parva* (p. 209) Paleocene, Morocco, M. Rey (2).

†*Globotruncana* (*Praeglobotruncana*) *renzi* subsp. n. *primitiva* (p. 43), Upper Cretaceous, California, K. Küpper (2).

†*Globulina lacrima* var. n. *canadensis* (p. 16) Cretaceous, Canada, G. B. Mellon & J. H. Wall.

†*Glomospira charoides* var. n. *leroyi* (p. 120), Cretaceous, Egypt, R. Said & A. Kenawy.

†*Glomospiranella latispiralis* sp. n. (p. 44); *G. rara* sp. n. (p. 45); Upper Palaeozoic, Russia, O. A. Lipina.

†*Glomospirella pseudopulchra* sp. n. (p. 31), Upper Palaeozoic, Russia, O. A. Lipina.

†*Glublerina*; status thereof, E. M. Gallitelli (6).

†*Gumbelina*; status thereof, E. M. Gallitelli (6).

†*Gumbelina tenuis* sp. n. (p. 303) Eocene, Saipan, R. Todd (5).

†*Gumbelina ? distorta* sp. n. (p. 189) Cretaceous, Italy, E. M. Gallitelli (4).

†*Gumbelina ? marshallana* sp. n. (p. 349) [authorship to Todd] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post.

†*Gumbelitra*; status thereof, E. M. Gallitelli (6).

†*Gumbelitriella*; status thereof, E. M. Gallitelli (6).

†*Guttulina asanoi* sp. n. (p. 191) Miocene, Japan, S. Iwasa & Y. Kikuchi; †*G. caudriacae* sp. n. (p. 28); Upper Oligocene, Colombia, V. Petters & R. Sarmiento; †*G. irregularis* var. n. *contraria* (p. 68); Kainozoic, Brazil, S. Petri.

†*Gyroidina reussi* sp. n. (p. 149) [for *G. nitida* (Reuss) of Cushman 1946]. Cretaceous, Egypt, R. Said & A. Kenawy.

†*Gyroidinoides frizzelli* sp. n. (p. 149) Paleocene, Egypt, R. Said & A. Kenawy; †*G. voluptus* sp. n. (p. 93) Paleocene, Britain, J. Haynes.

†*Halkyardia bikiniensis* sp. n. (p. 584), Tertiary, Bikini Atoll, W. S. Cole.

†*Haplophragmoides caucasicus*, *kubanensis* spp. n. (p. 85), Paleogene, Russia, E. K. Shutskeya; †*H. foliacea* sp. n. (p. 181) Cretaceous, Italy, E. M. Gallitelli (4); †*H. langsdalensis* sp. n. (p. 191), Cretaceous, Gulf Coast,

E. R. Applin; †*H. sluzari* sp. n. (p. 17) Cretaceous, Canada, G. B. Mellon & J. H. Wall.

†*Hauerina milletti, serrata* spp. n. (p. 337) [authorship to Cushman] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post.

†*Hemifusulina orienta* sp. n. (p. 1153) [nom. nud.] Upper Palaeozoic, Russia, A. D. Miklukho-Maklai.

†*Hemigordius longus* sp. n. (p. 524); *H. permicus, naliukini* spp. n. (p. 525); *H. ovatus* sp. n. (p. 526); *H. ovatus* var. n. *minima* (p. 527); Permian, Russia, L. P. Grozdilova.

†*Heterillina tongriensis* sp. n. (p. 14) Oligocene, France, F. Gullentops.

†Heterohelcidae; revision thereof, E. M. Gallitelli (6).

†*Heterohelix*; status thereof, E. M. Gallitelli (6).

†*Heterostegina nigripustula* sp. n. (p. 575); *H. pusillumbonata* sp. n. (p. 576); Tertiary, Bikini Atoll, W. S. Cole.

†*Heterostomella gracilis* sp. n. (p. 64), Upper Cretaceous, Germany, J. Hofker (4).

†*Hidaella* gen. n. (p. 45) *kameii* sp. n. (p. 46) (genotype) Upper Carboniferous, Japan, H. Fujimoto & H. Igō.

†*Historbitoides* gen. n. (p. 61) *kozaryi* sp. n. (p. 61) (genotype), Upper Cretaceous, Cuba, P. Bronnmann (2).

Höglundina hyalina sp. n. (p. 125), Recent, West Indies, J. Hofker (5).

†*Hollandina* gen. n. *pegwellensis* sp. n. (p. 94) (genotype)—includes *Truncatulina haidingeri* (Burrows & Holland ? 1897) (*non* d'Orbigny), Paleocene, Britain, J. Haynes.

Hyalovirgulinidae fam. n. (p. 45), J. Hofker (5).

†*Kahlerina* gen. n. (p. 383) *pachythea* sp. n. (p. 385) (genotype); *K. p.* subsp. n. *pusilla* (p. 388); Permian, Yugoslavia, V. Kochansky-Devidé & A. Ramovs.

†*Kilianina* Pfender; date of erection as 1933, J. Sigal.

†*Lagena amphora* var. n. *tenuis* (p. 183), Cretaceous, Italy, E. M. Gallitelli (4).

†*Lagenonodosaria sinaensis* sp. n. (p. 137) Paleocene, Egypt, R. Said & A. Kenawy.

†*Lamarckella* gen. n. *media* sp. n. (p. 59) (genotype), *L. antiqua, inflecta, plana, incrassata, quadrilobata, perforata, epistominoides, perlucens*, spp. n. (p. 59). Jurassic, Russia, O. K. Kaptarinko-Chernousova.

Lamarckina elongata sp. n. (p. 104), Recent, West Indies, J. Hofker (5); †*L. lamellosa, prima, discorbisi*, spp. n. (p. 59), Jurassic, Russia, O. K. Kaptarinko-Chernousova.

†Lasiodiscidae fam. n. (p. 74), Upper Palaeozoic, E. A. Reitlinger.

†*Lenticulina asanoi* sp. n. (p. 20) Miocene, Japan, Y. Tai (2); †*L. bayrocki* sp. n. (p. 19) Cretaceous, Canada, G. B. Mellon & J. H. Wall; †*L. huziokai* sp. n. (p. 191) Miocene, Japan, S. Iwasa & Y. Kikuchi; †*L. vedeli* sp. n. (p. 62) Jurassic, France, J.-P. Mangin (2).

†*Lepidocyclina* (*Eulepidina*) *abdo-pustula* sp. n. (p. 594) Tertiary, Bikini Atoll, W. S. Cole; †*L. (Nephrolepidina) augusticamera* sp. n. (p. 585); *L. (N.) bikiniensis* sp. n. (p. 586); *L. (N.) b.* var. n. *unipilaris* (p. 587); *L. (N.) cubiculirrhomboidea* sp. n. (p. 587); *L. (N.) pumilipapilla* sp. n. (p. 592); Tertiary, Bikini Atoll, W. S. Cole.

†*Lepidolina kumaensis* sp. n. (p. 22); *L. toriyamai* sp. n. (p. 24); Permian, Japan, K. Kanmera (2).

†Lingulinae; systematics thereof, T. Barnard (1).

†*Loxostomum latum, vescum* spp. n. (p. 304), Eocene, Saipan, R. Todd (5).

Marginolamellidae fam. n. (p. 189), J. Hofker (5).

†*Marginulina collinsi* sp. n. (p. 20), Cretaceous, Canada, G. B. Mellon & J. H. Wall; †*M. martinisi* sp. n. (p. 8) Tertiary, Italy, T. de Stefani.

†*Marginulinopsis deserti* sp. n. (p. 132), Cretaceous, Egypt, R. Said & A. Kenawy.

†*Massilina pseudoclara* sp. n. (p. 304), *M. rustica* sp. n. (p. 305) Recent, Saipan, R. Todd (5).

†*Miliammina sproulei* var. n. *gigantea* (p. 21); *M. subelliptica* sp. n. (p. 22) Cretaceous, Canada, G. B. Mellon & J. H. Wall.

†*Miliola pseudoprisca* sp. n. (p. 13) Oligocene, France, F. Gullentops.

†*Miogypsina*; systematics thereof, C. W. Drooger (4).

†*Miogypsinoidea grandipustula* sp. n. (p. 602) Tertiary, Bikini Atoll, W. S. Cole.

†*Miscellanea antillea* (Hanzawa); status thereof, M. de Cizancourt.

†*Monogenerina*; systematics thereof, R. H. Cummings (2).

†*Monotaxis subconica* sp. n. (p. 63), *M. subplana* sp. n. (p. 64) Carboniferous, Russia, H. E. Brazhnikova & M. V. Yartsheva.

†*Monotaxinoides* gen. n. (p. 65) *transitorius* sp. n. (p. 65) (genotype), *M. priscus* sp. n. (p. 65), Carboniferous, Russia, H. E. Brazhnikova & M. V. Yartsheva.

†*Multiseptida* gen. n. (p. 27) *corallina* sp. n. (p. 28) (genotype), Devonian, Russia, E. R. Bykova.

†*Nanicella porrecta* sp. n. (p. 54); *N. bella* sp. n. (p. 55); Devonian, Russia, E. R. Bykova.

†*Navarella* gen. n. *joaquina* sp. n. (p. 289) (genotype) Cretaceous, Spain, R. Ciry & P. Rat.

†*Neoflabellina postreticulata* sp. n. (p. 65), Upper Cretaceous, Germany, J. Hofker (4).

†*Neorotalia alicantina* sp. n. (p. 165); *N. bicarinata* sp. n. (p. 167); *N. minuta* sp. n. (p. 168); Tertiary, Spain, G. Colom (5).

†*Neoschwagerina craticulifera* var. n. *occidentalis* (p. 394) Permian, Yugoslavia, V. Kochansky-Devide & A. Ramovs.

†*Neotrocholina* gen. n. *valdensis* sp. n. (p. 404) (genotype), Cretaceous, Central Europe, M. Reichel.

†*Nodogenerina spinosa* sp. n. (p. 69) Upper Cretaceous, Germany, J. Hofker (4).

†*Nodomorphina pulchra* sp. n. (p. 210) Eocene, Morocco, M. Rey (2).

†*Nodosarella pliocenica* sp. n. (p. 50) Pliocene, Portugal, G. Colom (4); †*N. minuta* sp. n. (p. 145), Paleocene; *N. misrensis* sp. n. (p. 146), Cretaceous; Egypt, R. Said & A. Kenawy.

†*Nodosaria praecursor* sp. n. (p. 349); *N. procera*, *postprocera* spp. n. (p. 350); Carboniferous, Russia, D. M. Rauser-Chernousova (1).

†*Nonion korneevae* sp. n. (p. 225), Tertiary, Russia, E. V. Mjatluk; †*N. reculverensis* sp. n. (p. 86) Paleocene, Britain, J. Haynes; †*N. rusticum* sp. n. (p. 305) Eocene, Saipan, R. Todd (5).

†*Nonionella curvisulcata* sp. n. (p. 73); Kainozoic, Brazil, S. Petri; †*N. robusta* var. n. *perdita* (p. 83), Paleocene, Britain, J. Haynes.

†*Nummulites*; classification thereof, B. T. Goler.

†*Nummulites karamani* sp. n. (p. 3) Eocene, Turkey, A. Dizer; †*N. (Camerina) elisabetae* sp. n. (p. 466) Tertiary, Poland, H. Fuchs.

†*Nummulitoides* subgen. n. (p. 489) [of *Operculina*] *tessieri* sp. n. (p. 489) [subgenotype] Paleocene, French West Africa, R. Abrard (2).

†*Obruchevella*; regarded as alga, M. K. Elias.

†*Oolina germetrica* sp. n. (p. 305) Eocene, Saipan, R. Todd (5); †*O. reussi* sp. n. (p. 145), Cretaceous, Egypt, R. Said & A. Kenawy.

†*Operculina benevidea* sp. n. (p. 237), Miocene, Angola, A. Daci; †*O. lucidisutura* sp. n. (p. 575), Tertiary Bikini Atoll, W. S. Cole; †*O. pellatispiroides* sp. n. (p. 182), Tertiary, Spain, G. Colom (5).

†*Operculinoides amplicuneata* sp. n. (p. 573); *O. rectilata* sp. n. (p. 575); *O. bikiniensis* sp. n. (p. 574); Tertiary, Bikini Atoll, W. S. Cole; †*O. daviesi* sp. n. (p. 117), Paleocene, Egypt, M. Y. Hassan; †*O. georgianus* Cole & Herrick; status thereof, M. de Cizancourt.

†Emendation of *Orbulina* d'Orbigny (p. 66), W. H. Blow.

†*Emendation of Orbulina suturalis* Bronnimann (p. 66), W. H. Blow.

†*Orthomorphina stainforthi* sp. n. (p. 259) Pliocene, Italy, E. Perconig (3).

†*Orthophragmina* ; systematics thereof, M. Neumann (2).

†*Palaeobigenerina* ; systematics thereof, R. H. Cummings (2).

†*Palaeotextularia* ; systematics thereof, R. H. Cummings (2).

†*Palaeotextularia davisella* sp. n. (p. 218) ; *P. angulata* sp. n. (p. 219) ; Carboniferous, Great Britain, R. H. Cummings (2).

†*Palaeotextulariidae* fam. n. (p. 216) Palaeozoic, R. H. Cummings (2).

†*Paracaligella* gen. n. *antropovi* sp. n. (p. 26) (genotype) ; *P. spinosa* sp. n. (p. 27) ; Upper Palaeozoic, Russia, A. O. Lipina.

†*Parafissurina ovalis* sp. n. (p. 306) Miocene, Saipan, R. Todd (5).

†*Parafusulina nakamigawai* sp. n. (p. 262) Upper Palaeozoic, Japan, R. Morikawa & M. Horiguchi ; †*P. pseudojaponica* sp. n. (p. 32) [nom. nud.] Upper Palaeozoic, Japan, R. Toriyama.

†*Parastaffella fraudulenta* sp. n. (p. 350) ; *P. keltmensis* sp. n. (p. 351) ; Carboniferous, Russia, D. M. Rauser-Chernousova (1).

†*Parathurammia paulis* sp. n. (p. 17), Devonian, Russia, E. R. Bykova.

Phainogullmia gen. n. *aurata* sp. n. (p. 466) (genotype) Recent, Scandinavia, K.-G. Nyholm (1).

†*Phyllopsammia* gen. n. *adanula* sp. n. (p. 503) (genotype), Miocene, Poland, J. Matecki (2).

†*Placopsilina langsdalensis* sp. n. (p. 193), Cretaceous, Gulf Coast, E. R. Applin.

†*Planoglobulina* ; status thereof, E. M. Gallitelli (6).

†*Planularia vadászii* sp. n. (p. 215), Miocene, Poland, M. Sidó.

†*Planulina cushmani* sp. n. (p. 394) Eocene, Pyrenees, M. Ruiz de Gaona & G. Colom ; †*P. karsteni* sp. n. (p. 31), Oligocene, Colombia ; V. Petters & R. Sarmiento.

†*Plectofrondicularia carinata* sp. n. (p. 229), Tertiary, Russia, E. V. Mjatluk ; †*P. gracilis* sp. n. (p. 210) Eocene, Morocco, M. Rey (2).

†*Pleurostomella frons* sp. n. (p. 306) Miocene, Saipan, R. Todd (5) ; †*P. rameroensis* sp. n. (p. 72), Oligocene, Italy, E. di N. Alliata (2) ; †*P. subglobosa* sp. n. (p. 211) Oligocene, Morocco, M. Rey (2).

†*Polysegmentina lecointrei, marcaisi cushmani* spp. n. (p. 12), [nom. nud.] Pliocene, Morocco, P. Marie (1).

†*Praelamarckina* gen. n. *humilis* sp. n. (p. 59) (genotype) Jurassic, Russia, O. K. Kaptarinko-Chernoussova.

†*Protelphidium* gen. n. *hofkeri* sp. n. (p. 86) (genotype - includes ? *Nonionina depressula* Burrows and Holland 1897 (non Walker & Jacob), Paleocene, Britain, J. Haynes.

Pseudocibicidoides gen. n. *katasensis* sp. n. (p. 263) (genotype) Japanese coastal waters, H. Ujiie (1).

†*Pseudoclavulina brayi* sp. n. (p. 35), Cretaceous, Spain, G. Colom (1) ; †*P. pseudoarenata* sp. n. (p. 125) Cretaceous, Egypt, R. Said & A. Kenawy.

†*Pseudodoliolina pseudolepida* subsp. n. *gravitesta* (p. 12), Permian, Japan, K. Kanmera (2).

†*Pseudofusulina dupliihecata* sp. n. (p. 297) Permian, Japan, H. Igō ; †*P. globosa* var. n. *exilis* (p. 26) [nom. nud.] ; *P. vulgaris* var. n. *megasphaerica* (p. 32) [nom. nud.] ; Upper Palaeozoic, Japan, R. Toriyama.

†*Pseudogumbelina* ; status thereof, E. M. Gallitelli (6).

†*Pseudopalmula* Cushman & Stainbrook 1943 ; emendation thereof, E. R. Bykova.

†*Pseudopalmula fragaria* sp. n. (p. 43); *P. variocellata* sp. n. (p. 44); *P. ovata* sp. n. (p. 45); *P. extremitata* sp. n. (p. 46); *P. gyronopsis* sp. n. (p. 47); *P. scheda* sp. n. (p. 49); Devonian, Russia, E. R. Bykova.

†*Pseudonodosaria clearwaterensis* sp. n. (p. 23), Cretaceous, Canada, G. B. Mellon & J. H. Wall.

Pseudoparrella hyalina sp. n. (p. 109), Recent, West Indies, J. Hofker (5).

†*Pseudoschwagerina paraudeni* sp. n. (p. 1154) [nom. nud.], Upper Palaeozoic, Russia, A. D. Miklukho-Maklai.

†*Pseudostaffella praegorskyi* sp. n. (p. 352), Carboniferous, Russia, D. M. Rauser-Chernoussova (1).

†*Pseudotextularia*; status thereof, E. M. Gallitelli (6).

†*Pseudotriplasia* gen. n. (p. 497) *elongata* sp. n. (p. 499) (genotype); *P. plana* sp. n. (p. 501); *P. robusta elongata*, *inconstans*, *globulosa* spp. n. (p. 502); Miocene, Poland, J. Matecki (2).

†*Pseudouvierina sinaensis* sp. n. (p. 141) Cretaceous, Egypt, R. Said & A. Kenawy.

†*Pullenia platti* sp. n. (p. 87) Paleocene, Britain, J. Haynes.

†*Quadrimorphina*; re-definition thereof, J. C. Troelsen.

†*Quadrimorphina albertensis* sp. n. (p. 24), Cretaceous, Canada, G. B. Mellon & J. H. Wall.

†*Queraltina*; status thereof, H. Hagn (2).

†*Quinqueloculina distorta* sp. n. (p. 333) [authorship to Cushman] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post; †*Q. grosserugosa* sp. n. (p. 10) Oligocene, France, F. Gullentops; †*Q. moremani* var. n. *barlowensis* (p. 192), Cretaceous, Gulf Coast, E. R. Applin; †*Q. sakaii* sp. n. (p. 418) Tertiary, Japan, Y. Tai (3); †*Q. tubus* sp. n. (p. 306), Recent, Saipan, R. Todd (5).

†*Rabanitina* gen. n. (p. 343) *basraensis* sp. n. (p. 344) (genotype), Cretaceous, Middle East, A. H. Smout.

†*Rectobolivina dupuyi* sp. n. (p. 181), Tertiary, Spain, G. Colom (5).

†*Rectocornuspira siratchoya* sp. n. (p. 19), Devonian, Russia, E. R. Bykova.

†*Rectoglandulina bulla* sp. n. (p. 134), Paleocene, Egypt, R. Said & A. Kenawy.

†*Rectogumbelina*; status thereof, E. M. Gallitelli (6).

†*Rectogumbelina longa* sp. n. (p. 139) Cretaceous, Egypt, R. Said & A. Kenawy.

†*Rectotrochamminoides* gen. n. (p. 9) *vagrans* sp. n. (p. 10) [nom. nud.] Cretaceous, Colorado, W. A. Fischer.

†*Rectuvigerina advena* sp. n. (p. 144) Paleocene, Egypt, R. Said & A. Kenawy.

†*Reichelina chichibuensis* sp. n. (p. 251) Permian, Japan, R. Morikawa.

Reophax asymmetricus sp. n. (p. 82) North Pacific, Z. G. Shchedrina (3).

†*Reussella exilis* sp. n. (p. 307) Eocene, Saipan, R. Todd (5); †*R. spinulosa* var. n. *incrassata* (p. 149), Miocene, Poland, E. Luczkowska (2); †*R. szajnochae* subsp. n. *praecursor* (p. 603) Cretaceous, Germany, Von I. de Klsz & H. C. G. Knipscheer.

†*Robulus incisus* sp. n. (p. 92); *R. pre-incisus* sp. n. (p. 96), Paleocene, Africa, M. Lys; †*R. denticulifera* var. n. *bartoniana* (p. 403); *R. olianensis* sp. n. (p. 406) Eocene, Pyrenees, M. Riuz de Gaona & G. Colom; *R. pavlovskii* sp. n. (p. 90) North Pacific, Z. G. Shchedrina (3); †*R. cf. smileyi* var. n. *pauciloculata* (p. 59) Kainozoic, Brazil, S. Petri; †*R. sugotaensis* sp. n. (p. 191) Miocene, Japan, S. Iwasa & Y. Kikuchi.

†*Rosalina mimiconcinna* sp. n. (p. 91), Paleocene, Britain, J. Haynes.

†“*Rotalia*” *beccarii* var. n. *angulata* (p. 106) Kainozoic, Brazil, S. Petri.

†*Rotalia tanosawaensis* sp. n. (p. 192), Miocene, Japan, S. Iwasa & Y. Kikuchi.

Rotaliella roscoffensis, californica spp. n. (p. 759) [nomina nuda], K. G. Grell (5).

†*Rotalipora turonica* subsp. n. *thomei* (p. 28), Cretaceous, Germany, H. Hagn & W. Zeil (1).

Rubratella gen. n. *intermedia* sp. n. (p. 759) [nom. nud.], K. G. Grell (5).

†*Rugidia* ? *spinosa* sp. n. (p. 362) [authorship to Cushman] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post.

†*Rugososchwagerina ferganica* sp. n. (p. 1154) [nom. nud.] Upper Palaeozoic, Russia, A. D. Miklukho-Maklai.

†*Rzehakina spiroloculinoides* sp. n. (p. 182) Cretaceous, Italy, E. M. Gallitelli (4).

†*Saccamina ingloria* sp. n. (p. 18), Devonian, Russia, E. R. Bykova.

†*Saccaminoides* gen. n. *carpathicus* sp. n. (p. 54) (genotype), Eocene, Carpathians, S. Geroch.

†*Saracenaria akitaensis* sp. n. (p. 191) Miocene, Japan, S. Iwasa & Y. Kikuchi; †*S. trollopei* sp. n. (p. 25), Cretaceous, Canada, G. B. Mellon & J. H. Wall.

†*Schubertella japonica* sp. n. (p. 33) [nom. nud.] Upper Palaeozoic, Japan, R. Toriyama.

†*Schwagerina etoi* sp. n. (p. 25) (nom. nud.) Upper Palaeozoic, Japan, R. Toriyama; †*S. pseudocrassa* sp. n. (p. 9), Permian, Japan, K. Kanmera (2).

†*Semitextularia* Miller & Carmer 1933; emendation thereof, E. R. Bykova.

†*Semitextularia oscoliensis* sp. n. (p. 33); *S. semilukiensis* sp. n. (p. 34); *S. sigillaria* sp. n. (p. 36) [includes *S. thomasi* of Cushman & Stainbrook 1943]; *S. natiopsis* sp. n. (p. 37); *S. minuta* sp. n. (p. 38); *S. inartia* sp. n. (p. 39); *S. palmuliensis* sp. n. (p. 40); *S. platycera* sp. n. (p. 41); Devonian, Russia, E. R. Bykova.

†*Septabrunsiina* gen. n. (p. 42) (genotype *Endothyra* ? *krainica* Lipina 1948), Upper Palaeozoic, Russia, O. A. Lipina.

†*Septaglomospiranella* gen. n. (p. 46) (genotype *Endothyra* ? *primaeva* Rauser-Chernoussova 1948); *S. dai-nae* sp. n. (p. 47); Upper Palaeozoic, Russia, O. A. Lipina.

†*Septatournayella* gen. n. (p. 36) (genotype *Tournayella segmentata* Dain 1953); *S. pseudocamerata, malakhovae* spp. n. (p. 38); *S. ? minuta* (Lipina) (for *E. ? minuta* Lipina 1948); *S. rauserae* sp. n. (p. 40); Upper Palaeozoic, Russia, O. A. Lipina.

†*Sigmoilina asselberghsi* sp. n. (p. 12) Oligocene, France, F. Gullentops; †*S. bartoniensis* sp. n. (p. 410) Eocene, Pyrenees, M. Ruiz de Gaona & G. Colom; †*S. imamurai* sp. n. (p. 20) Miocene, Japan, Y. Tai (2).

†*Simplorbitolina* gen. n. (p. 302) *manasi* sp. n. (p. 302) (genotype), Cretaceous, Spain, R. Ciry & P. Rat.

†*Siphogenerinoides carlilensis* sp. n. (p. 10) [nom. nud.] Cretaceous, Colorado, W. A. Fischer.

Siphonina primitiva sp. n. (p. 120), Recent, West Indies, J. Hofker (5).

†*Siphotextularia inopinata* sp. n. (p. 148), Miocene, Poland, E. Luczkowska (2); †*S. olianensis* sp. n. (p. 413) Eocene, Pyrenees, M. Ruiz de Gaona & G. Colom.

†*Spiroclypeus ranjanae* sp. n. (p. 320), Miocene, India, B. S. Tewari.

†*Spiroloculina clara* var. n. *lirata* (p. 335) [authorship to Cushman]; *S. marshallana* sp. n. (p. 335) [authorship to Todd] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post; †*S. concava* nom. n. (p. 53) (for *S. planulata* Cushman 1929 (non Lamarck)) Kainozoic, Brazil, S. Petri; †*S. folium* sp. n. (p. 307) Recent, Saipan, R. Todd (5).

†*Spiroplectammina* ? *angusta* sp. n. (p. 80); *S. nana* sp. n. (p. 80); *S. spinosa* sp. n. (p. 81); Upper Palaeozoic, Russia, O. A. Lipina; †*S. knebeli* var. n. *longa* (p. 122); *S. paracarinata* sp. n. (p. 122) Paleocene, Egypt, R. Said & A. Kenawy; †*S. scaligera* sp. n. (p. 147), Miocene, Poland, E. Luczkowska (2).

†*Spirosigmoilinella* gen. n. (p. 49) *compressa* sp. n. (p. 50) (genotype) Miocene, Japan, T. Matsunaga.

†*Tappanina* gen. n. (p. 36) (genotype *Bolivinita selmensis* Cushman 1933) [validation of nom. nud. *Tappanina* Gallitelli 1955] Upper Cretaceous, E. M. Gallitelli (7).

Technitella oblonga, oviformis spp. n. (p. 81); *T. pacifica, sphaera* spp. n. (p. 82); North Pacific, Z. G. Shchedrina (3).

†*Textularia alveata* sp. n. (p. 307) Recent, Saipan, R. Todd (5); †*T. curta* sp. n. (p. 46); *T. marajoara* sp. n. (p. 47) Kainozoic, Brazil, S. Petri; †*T. dupla* sp. n. (p. 329) [authorship to Todd] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post.

†*Tikhinella* gen. n. (p. 29) *measpis* sp. n. (p. 30) (genotype); *T. fringa* sp. n. (p. 30); *T. pirula* sp. n. (p. 31); *T. cannula* sp. n. (p. 32), Devonian, Russia, E. R. Bykova.

†*Tournayella discoidea* var. n. *angusta* (p. 35); *T. gigantea* sp. n. (p. 35); *T. g.* var. n. *minoris* (p. 35); *T. costata* sp. n. (p. 36), Upper Palaeozoic, Russia, O. A. Lipina.

†*Tournayellina* gen. n. *vulgaris* sp. n. (p. 52) (genotype), Upper Palaeozoic, Russia, O. A. Lipina.

†*Trachelinella* gen. n. (p. 38) (genotype *Bolivina watersi* Cushman 1927) [includes *Trakelina* Gallitelli 1955 as a synonym] Upper Cretaceous, E. M. Gallitelli (7).

†*Triasina* gen. n. *hantkeni* sp. n. (p. 245), Trias, Poland, L. Majzon (1).

†*Triloculina bikiniensis, involuta* spp. n. (p. 338); *T. marshallana, subplanciana* spp. n. (p. 339); [authorship to Todd]; *T. earlandi* sp. n. (p. 338) [authorship to Cushman] Recent, Marshall Islands, J. A. Cushman, R. Todd & R. J. Post; †*T. incisura* sp. n. (p. 308) Recent, Saipan, R. Todd (5); †*T. tongriensis* sp. n. (p. 15) Oligocene, France, F. Gullentops.

†*Tritaxia athabascensis* sp. n. (p. 27), Cretaceous, Canada, G. B. Mellon & J. H. Wall; †*T. barakai* sp. n. (p. 123) Cretaceous, Egypt, R. Said & A. Kenawy.

†*Tritaxilina bermudezi* sp. n. (p. 162), Tertiary, Spain, G. Colom (5); †*T. maxima* sp. n. (p. 36) Oligocene, Italy, U. Salvatori.

†*Trochammina floris* sp. n. (p. 90), Paleogene, Russia, E. K. Shutskaya; †*T. mcmurrayensis* sp. n. (p. 28), Cretaceous, Canada, G. B. Mellon & J. H. Wall.

†*Trochamminoides irregularis* var. n. *planulata* (p. 84), Paleogene, Russia, E. K. Shutskaya.

†*Tubitextularia*; status thereof, E. M. Gallitelli (6).

†*Uralinella* gen. n. (p. 15) *bica-merata* sp. n. (p. 16) (genotype) Devonian, Russia, E. R. Bykova.

†*Uvigerina codazzii, porqueroensis, redmondi* spp. n. (p. 30), Oligocene; *U. gallowayi* var. n. *basiquadrata* (p. 30) Lower Miocene, Colombia; *U. Petters & R. Sarmiento*; †*U. longistriata* sp. n. (p. 182); †*U. striatissima* sp. n. (p. 187), Neogene, Italy, E. Perconig (2); †*U. pudica, bellicostata* spp. n. (p. 150), Miocene, Poland, E. Luzykowska (2).

†*Uvigerinella quadrata* sp. n. (p. 17), Tertiary, Japan, S. Iwasa.

†*Vaginulina longiformis* sp. n. (p. 134) Paleocene; *V. misrensis* sp. n. (p. 135), Cretaceous; Egypt, R. Said & A. Kenawy.

†*Vaginulinopsis baggi* sp. n. (p. 30), Miocene, Maryland; *V. ? crisfieldensis* sp. n. (p. 31), ? Eocene, Maryland, J. D. McLean jr. (3).

†*Valvulineria pulchra* sp. n. (p. 308), *V. ? scita* sp. n. (p. 308), Eocene, Saipan, R. Todd (5).

†*Ventilabrella*, status thereof, E. M. Gallitelli (6).

†*Verneuilina aegyptica, karreri* spp. n. (p. 122) Cretaceous, Egypt, R. Said & A. Kenawy; †*V. szajnochae* sp. n. (p. 600), Cretaceous, Germany, Von I. de Klsasz & H. C. G. Knipscheer

†*Verneuilinella* gen. n. (p. 113) *azerbaidjanica* sp. n. (p. 113) [?genotype] Mesozoic, Azerbaidzhan, C. L. A. Tairov.

†*Victoriella aquitanica* sp. n. (p. 47), Oligocene, France, A. Debourle & M. Delmas.

†*Virgulina akitaensis* sp. n. (p. 17), Tertiary, Japan, S. Iwasa.

Virgulinopsis gen. n. (p. 47)
cubana sp. n. (p. 47); *V. translucens*
 sp. n. (p. 48); Recent, West Indies,
 J. Hofker (5).

†*Wedekindellina prolifica* sp. n.
 (p. 130) Carboniferous, Japan, K.
 Kanmera (1).

†*Yabeina akiyamai* sp. n. (p. 256)
 Permian, Japan, R. Morikawa; †*Y.*
gubleri sp. n. (p. 19), Permian, Japan,
 K. Kanmera (2).

†*Zeanvigerina aegyptica* sp. n.
 (p. 141) Cretaceous, Egypt, R. Said
 & A. Kenawy.

(d) Heliozoa.

Acanthocystis (?) *echinoidea* sp. n.
 (p. 515); fresh-water, Roumania, I.
 Lepsi.

(e) Radiolaria.

†New Paleocene radiolaria from
 Missouri, D. L. Frizzell & E. S.
 Middour.

†*Anthocyrtoma ardeola* sp. n. (p.
 29) Paleocene, Missouri, D. L. Frizzell
 & E. S. Middour.

†*Brachiospyris martini* sp. n. (p.
 28) Paleocene, Missouri, D. L.
 Frizzell & E. S. Middour.

†*Carposphaera* [*Carposphaera*] *friz-*
zelli sp. n. (p. 10); *C.* [*C.*] *milesi*
 sp. n. (p. 11) Paleocene, Missouri,
 D. L. Frizzell & E. S. Middour.

†*Cenellipsis* [*Cenellipsula*] *pecki* sp.
 n. (p. 19), Paleocene, Missouri, D. L.
 Frizzell & E. S. Middour.

†*Dorylonchidium* [*Dorylonchella*]
exlinae sp. n. (p. 21), Paleocene,
 Missouri, D. L. Frizzell & E. S.
 Middour.

†*Druppattractus* [*D.*] *benesagittatus*
parumsagittatus, spp. n. (p. 21) Paleo-
 cene, Missouri, D. L. Frizzell & E. S.
 Middour.

†*Druppula saligra* sp. n. (p. 21);
D. oligra sp. n. (p. 22); Paleocene,
 Missouri, D. L. Frizzell & E. S.
 Middour.

†*Eucytidium* [*Artocyrtis*] *frizzelli*
 sp. n. (p. 34); *E.* [*Eucytidium*] *plum-*
merae sp. n. (p. 34); Paleocene,
 Missouri, D. L. Frizzell & E. S.
 Middour.

†*Eusyringium* [*E.*] *royi* sp. n. (p.
 35), Paleocene, Missouri, D. L.
 Frizzell & E. S. Middour.

†*Larnacalpis smili* sp. n. (p. 27),
 Paleocene, Missouri, D. L. Frizzell &
 E. S. Middour.

†*Lithostrobis* [*Cyrtostrobis*] *turri-*
cula sp. n. (p. 33) Paleocene,
 Missouri, D. L. Frizzell & E. S.
 Middour.

†*Lophoconus wetzeli* sp. n. (p. 30)
 Paleocene, Missouri, D. L. Frizzell &
 E. S. Middour.

†*Spongodiscus* [*Spongocyclia*] *camp-*
belli sp. n. (p. 26) Paleocene, Mis-
 souri, D. L. Frizzell & E. S. Middour.

†*Spongolonchis grawei* sp. n. (p. 16)
 Paleocene, Missouri, D. L. Frizzell &
 E. S. Middour.

†*Spongurus* [*Spongurantha*] *crow-*
leyensis sp. n. (p. 23) Paleocene,
 Missouri, D. L. Frizzell & E. S.
 Middour.

†*Staurodoras* ? *muelleri* sp. n. (p.
 18) Paleocene, Missouri, D. L. Frizzell
 & E. S. Middour.

†*Stichopilium* ? [*Stichopolium* ?]
cunninghami sp. n. (p. 32) Paleocene,
 Missouri, D. L. Frizzell & E. S.
 Middour.

†*Stomatodiscus missouriensis*, *por-*
tersensis spp. n. (p. 25) Paleocene,
 Missouri, D. L. Frizzell & E. S.
 Middour.

†*Stylosphaera* [*S.*] *fairchildi* sp. n.
 (p. 15), Paleocene, Missouri, D. L.
 Frizzell & E. S. Middour.

†*Stylostaurus* ? *carolynae* sp. n.
 (p. 17); *S. palaeocenica* sp. n. (p. 17);
 Paleocene, Missouri, D. L. Frizzell &
 E. S. Middour.

†*Theocorys* [*Theocorys*] *minerva* sp.
 n. (p. 31); Paleocene, Missouri, D. L.
 Frizzell & E. S. Middour.

†*Trematodiscus* [*T.*] *barbarae* sp. n.
 (p. 24) Paleocene, Missouri, D. L.
 Frizzell & E. S. Middour.

†*Xiphosphaera* [*X.*] *clarki* sp. n.
 (p. 13) Paleocene, Missouri, D. L.
 Frizzell & E. S. Middour.

2.—MASTIGOPHORA

A. PHYTOMASTIGINA

(a) Chrysomonadida.

Chrysochromulina ericina sp. n. (p. 389); *C. ehippium* sp. n. (p. 398); *C. alifera* sp. n. (p. 406); marine, Plymouth [authorship to Parke & Manton], M. Parke, I. Manton & B. Clarke.

Discosphaera crucifera sp. n. (p. 7); *D. regalis* sp. n. (p. 8); Atlantic, K. R. Gaardner (1).

Gephyrocapsa oceanica var. *n. californiensis* (p. 179), E. Kramptner.

Lohmannosphaera michaelsarsi sp. n. (p. 8); Atlantic, K. R. Gaardner (1).

Monochrysis lutheri sp. n. (p. 34), salt pools, Finland, M. R. Droop.

Nephromonas gen. n. *hyalina* sp. n. (p. 35), brackish pools, Finland, M. R. Droop.

Pontosphaera grani sp. n. (p. 9); Atlantic, K. R. Gaardner (1).

Rhabdosphaera echinata, *paxillifera*, *spinosa* spp. n. (p. 10); *R. tenuistylis* sp. n. (p. 11); Atlantic, K. R. Gaardner (1).

Synura spinosa forma. n. *molli-spina*, *spinosa* (p. 20); *S. spinosa* forma. n. *longispina*, *curtispina*, *nygaardii* (p. 22), Denmark, J. B. Petersen & J. B. Hansen.

(b) Cryptomonadida.

[No records].

(c) Dinoflagellata.

New dinoflagellates from the Atlantic, K. R. Gaardner (2).

Dinoflagellata from the Neusiedler Sea, Austria, J. Schiller (1).

Amphidinium pusillum sp. n. (p. 20); *A. viride*, *bidentatum*, spp. n. (p. 21); *A. sauerzopfii*, *oculatum* spp. n. (p. 22); *A. eucephalum*, *multiplex* spp. n. (p. 23); *A. obliquum* sp. n. (p. 24); *A. inconstans*, *glauco-virescens* spp. n. (p. 25); *A. vorax* sp. n. (p. 26); *A. caerulea* sp. n. (p. 27); *A. rutneri* sp. n. (p. 28); Neusiedler Sea, Austria, J. Schiller (1).

Blepharocysta compressa sp. n. (p. 6), Atlantic, K. R. Gaardner (2); *B. matzenaueri* nom. n. (p. 6) [for *Lissodinium schilleri* Matzenauer]; *B. m. forma* n. *gibba* (p. 7), Atlantic, K. R. Gaardner (2).

Cladopyxis, status of, K. R. Gaardner (2).

†*Deflandrea heterophlycta* sp. n. (p. 249); *D. robusta* sp. n. (p. 250); *D. bakeri* sp. n. (p. 251); *D. b. forma* n. *pellucida* (p. 251); *D. obliquipes*, *pachyceros* spp. n. (p. 252); Eocene, Australia, G. Deflandre & I. C. Cookson (2).

Dinophysis acutissima sp. n. (p. 19); *D. reticulata* (p. 21); Atlantic, K. R. Gaardner (2).

†*Dracodinium* gen. n. (p. 87) *solidum* sp. n. (p. 88) (genotype) Lower Tertiary, Germany, H. Gocht.

†*Eisenackia* gen. n. *crassitabulata* sp. n. (p. 258) (genotype) Lower Eocene, Australia, G. Deflandre & I. C. Cookson (2).

Epiperidinium michaelsarsi sp. n. (p. 22), Atlantic, K. R. Gaardner (2).

Exuviaella magna sp. n. (p. 23), Atlantic, K. R. Gaardner (2); *E. peisonis* sp. n. (p. 59) Neusiedler Sea, Austria, J. Schiller (1).

Glenodinium bieblii, *peisonis* spp. n. (p. 48); *G. gessneri*, *amphiconicum* spp. n. (p. 49); *G. fungiforme* sp. n. (p. 50); *G. vindobonense*, *kampneri* spp. n. (p. 51); *G. denticulatum*, *sciculiferum* spp. n. (p. 52); Neusiedler Sea, Austria, J. Schiller (1).

Goniaulax paulseni nom. n. (p. 25) [for *G. sp.* of Paulsen], K. R. Gaardner (2).

Goniodoma concavum sp. n. (p. 27); *G. depressum* sp. n. (p. 28); Atlantic, K. R. Gaardner (2).

†*Gymnodinium australiense* sp. n. (p. 248) Miocene, Australia, G. Deflandre & I. C. Cookson (2); *G. eufrigidum* sp. n. (p. 28); *G. submontanum*, *stagnale* spp. n. (p. 29); *G. cyaneum*, *caerulea*, *achroum* spp. n. (p. 30); *G. schuettii* sp. n. (p. 32); *G. knollii*, *devorans* spp. n. (p. 32); *G. legiconveniensi*, *amphiconioides* spp. n. (p. 33); *G. danubiense*, *absumens*, *deformabile* spp. n. (p. 34);

G. posthiemale, *glaucum* spp. n. (p. 35); *G. wawriake*, *peisonis* spp. n. (p. 36); *G. baumeisteri*, *viridaleut* spp. n. (p. 38); *G. huber-pestalozzi*, spp. n. (p. 39); *G. granii* spp. n. (p. 42); *G. paradoxiforme* spp. n. (p. 41); Neusiedler Sea, Austria, J. Schiller (1); *G. vitiligo* spp. n. (p. 467); *G. veneficum* spp. n. (p. 468); Plymouth, England, D. Ballatine.

Gyrodinium pallidum spp. n. (p. 47); *G. elongatum* spp. n. (p. 48); Neusiedler Sea, Austria, J. Schiller (1).

Histioneis parallela spp. n. (p. 33); Atlantic, K. R. Gaardner (2).

†*Hystriochodinium oligacanthum* spp. n. (p. 255), Lower Tertiary, Australia, G. Deflandre & I. C. Cookson (2).

Massartia austriaca spp. n. (p. 45) Neusiedler Sea, Austria, J. Schiller (1).

Murrayella kofoidi nom. n. (p. 34) [for *Amphidoma biconica* Kofoid]; *M. k. forma n. elongata* (p. 34); Atlantic, K. R. Gaardner (2).

Oxytomum carinatum spp. n. (p. 35); *O. latum* spp. n. (p. 36); *O. michael-sarsi*, *ovum* spp. n. (p. 37); Atlantic, K. R. Gaardner (2).

†*Palaeohystriochophora* Deflandre, emendation thereof (p. 257); *P. multispina*, *minuta* spp. n. (p. 257), Upper Cretaceous, Australia, G. Deflandre & I. C. Cookson (2).

Peridinium bulbosum spp. n. (p. 39); *P. heterospinum* spp. n. (p. 45); *P. parvispinum* spp. n. (p. 48); Atlantic, K. R. Gaardner (2); *P. hiemale* spp. n. (p. 54) Neusiedler Sea, Austria, J. Schiller (1); *P. matzenaueri* nom. n. (p. 46) [for *P. conicum forma concava* Matzenauer], K. R. Gaardner (2).

Phalacroma complanatum spp. n. (p. 51); *P. lacrima*, *latum* spp. n. (p. 52); *P. longialatum* spp. n. (p. 53); *P. pirum*, *robustum* spp. n. (p. 54); *P. rugosum*, *symmetricum*, spp. n. (p. 55); Atlantic, K. R. Gaardner (2).

Prorocentrum tubiferum spp. n. (p. 60) Neusiedler Sea, Austria, J. Schiller (1).

†*Rhombodinium* gen. n. *draco* spp. n. (p. 85) (genotype) Middle Oligocene, Germany, H. Gocht.

†*Wetzelicella lineidentata* spp. n. (p. 253); *W. homomorpha* spp. n. (p. 254); Lower Tertiary, Australia, G. Deflandre & I. C. Cookson (2).

(d) Euglenoidida.

Euglena fracta spp. n. (p. 271) pond, Iowa, L. P. Johnson; *E. halophila* spp. n. (p. 172), Neusiedler Sea [authorship to Schiller], A. Diskus (1); *E. nastriformis*, *höfleri*, spp. n. (p. 553); *E. mobilis*, *pochmanni*, *pachyperioplastica*, *sacculus* spp. n. (p. 554); *E. simplex* spp. n. (p. 555); *E. agilis forma n. caeruleoviridis* (p. 556); *E. agilis* varr. n. *praeexcisa*, *varians* (p. 556); *E. agilis* varr. n. *circumsulcata*, *apyrenoidea* (p. 557); *E. bichloris*, *naviculaeformis*, *limaciformis* spp. n. (p. 558); *E. kalleides*, *peisonis*, *paucichromata* spp. n. (p. 559); *E. stenothermalis*, *longoflagellata*, spp. n. (p. 561); *E. impleta*, *glacialis*, *chromofusiformis* spp. n. (p. 562), *E. impleta forma n. sparso-colorata* (p. 563); *E. congelians*, *cylindrica* spp. n. (p. 563); *E. pellucida* spp. n. (p. 564); *E. minutomucronata*, *aculeata* spp. n. (p. 565); *E. chromanularis*, *pallida* spp. n. (p. 566); *E. aestivalis*, *velox*, *fielbigeri* spp. n. (p. 567); *E. serpens* spp. n. (p. 568); *E. vermiformis* spp. n. (p. 570); *E. pituitosa* spp. n. (p. 569); *E. heteroformis*, *aequabilis*, *machurae*, *paramylangulata* spp. n. (p. 571); *E. cicutaria*, *sigma*, *filocaudata* spp. n. (p. 572), *E. discusii* spp. n. (p. 573); *E. adunca* nom. n. (p. 573) [for *E. rostrata* Schiller 1953 (non Ehrenberg 1838)]; *E. vitrea*, *tibiangeri*, spp. n. (p. 574); *E. aspera* spp. n. (p. 575); *E. anquis* spp. n. (p. 578), all Neusiedler Sea, freshwater, Austria, J. Schiller (2).

(e) Phytomonadida.

Pedinomonas upsilon spp. n. (p. 37), pools, Finland, M. R. Droop.

B. ZOOMASTIGINA

(f) Protomonadida.

Protospongia dybsoeënsis spp. n. (p. 9), Danish coast, J. Grøntved.

Retortamonas pericopti, spp. n. (p. 302) from N. Zealand insects, M. Laird.

Salpingoeca natans sp. n. (p. 9), Danish coast, J. Grøntved.

Comparison between the metabolism of trypanosomes and their systematic classification, T. von Brand.

Trypanosoma evansi, revision of taxonomic status, and affinities, C. A. Hoare (2).

Trypanosoma dressei, sp. n. (p. 484), *T. thomasi* sp. n. (p. 485), from rodents Belgian Congo, M. Lips & J. Rodhain.

(g) **Trichomonadida.**

Tritrichomonas sp. from pig U.S.A., B. W. Buttrey.

(h) **Hypermastigida.**

[No records].

(i) **Diplomonadida.**

Nomenclature of *Hexamita*, H. Zago Filho & M. P. Barretto.

Hexamita marsupialis sp. n. (p. 84) from Brazilian, H. Zago Filho & M. P. Barretto.

(j) **Polymonadida.**

[No records].

(k) **Opalinida.**

[No records].

3.—SPOROZOA

GENERAL

Taxonomy of Sporozoa, E. M. Heissin.

A. COCCIDIOMORPHA

(a) **Gregarinida.**

Actinocephalus conicus var. n. magna. (p. 76) from beetles, J. Théodoridès (1).

Ancyrophona cervicornis sp. n. (p. J. Théodoridès (1).

Ancyrophona cervicornis sp. n. (p. 72) from beetles, J. Théodoridès (1).

Apolocystis dichogasteri sp. n. (p. 416), from African Oligochaete, O. Tuzet & M. Vogeli (1); *A. pilosa* sp. n. (p. 359), *A. stammeri* sp. n. (p. 360), from German oligochaete, M. Meier.

Didymophyidae, identity of family, J. Théodoridès & R. Ormieres.

Didymophyes scarabaei sp. n. (p. 55); *D. risyphe* sp. n. (p. 56); *D. tuzetae* sp. n. (p. 58); from beetles, J. Théodoridès (1).

Dirhynchocystis eudrilii sp. n. (p. 721) from oligochaete, O. Tuzet & M. Vogeli (2).

Gregarina garnhami sp. n. (p. 50) E. U. Canning; *G. maculata* var. n. *banyulensis* (p. 64) from beetles, J. Théodoridès (1); *G. ophoni* sp. n. (p. 326) from Coleoptera France, O. Tuzet & R. Ormieres.

Hyalospora volsella sp. n. (p. 321) from Thyasanura, France, O. Tuzet & R. Ormieres,

Hyalosponina froilanoi sp. n. (p. 25), *H. zebriaca* sp. n. (p. 27) from Indian millipedes, K. R. Karandikar & S. S. Rodgi.

Monocystis endrillii sp. n. (p. 726) from oligochaete, O. Tuzet & M. Vogeli (2); *M. lobosa*, *capillata* spp. n. (p. 412) *M. omodeoi* sp. n. (p. 416); from African Oligochaete, O. Tuzet & M. Vogeli (1).

Monoductus kelaarti sp. n. (p. 31), *M. tubulosus* sp. n. (p. 33), from Indian millipedes, K. R. Karandikar & S. S. Rodgi (2).

Oligochaetocytis gen. n. *pachydriili* (p. 375), *O. mesenchyetaei* sp. n. (p. 377), from German oligochaete, M. Meier.

Rhabdocystis pilosa sp. n. (p. 361), from German oligochaete, M. Meier.

Stictospora provincialis var. n. *anomala* (p. 80) from beetles, J. Théodoridès (1).

Stenophona karnataki sp. n. (p. 14), *S. papillata* sp. n. (p. 17), *S. ovoidalis* sp. n. (p. 20), *S. tubulosus* sp. n. (p. 21) from Indian millipedes, K. R. Karandikar & S. S. Rodgi (2).

Stylocephalus eastoni sp. n. (p. 83); *S. phalloides* sp. n. (p. 87); from beetles, J. Théodoridès (1).

Zygocystis henleae sp. n. (p. 370) from German oligochaete, M. Meier.

(b) **Coccidiida.**

Eimeria heissini sp. n. (p. 181), *E. ellobii* sp. n. (p. 185), *E. markovi* sp. n. (p. 189) from wild mammals of Kazakhstan, S. K. Svanbaev; *E. komareki*, sp. n. (p. 22) from Moravian shrew, Ž. Černa & M. Daniel; *E. mundaragi* sp. n. (p. 197) from Indian calf, L. S. Hiregaudar (1); *E. pternistis* sp. n. from Somaliland bird, G. Agostinucci & E. Bronzini; *E. tachyoryctis* sp. n. (p. 67) from *Tachyoryctes ruandae* (Belgian Congo Rat), L. Berghe & M. Chardome.

Isopora pavlovskyi sp. n. (p. 183), *I. eversmanni* sp. n. (p. 183), *I. uralicae* sp. n. (p. 187) from wild mammals of Kazakhstan, S. K. Svanbaev.

Protococcidia ord. n. (p. 1293); validation thereof, E. M. Heissin.

(c) **Haemosporidia.**

Systematics of piroplasms of domestic animals, W. O. Neitz (1).

Babesia as generic name in bacteriology, Anon. (2).

Babesiosoma gen. n. (p. 113), morphology and affinities, S. Jakowska & R. F. Nigrelli.

Plasmodium inopinatum sp. n. (p. 262) from Belgian rat, R. Ressler; *P. pifanoi* sp. n. (p. 4) from reptile, *Ameiva ameiva ameiva* Venezuela, J. V. Scorza & B. y. C. Dagert; *P. subpraecox*, as a strain of *P. praecox*, A. Corradetti & I. Neri.

Classification of Theileridae, W. O. Neitz & B. C. Jansen.

Theileria lawrencei sp. n. (p. 122) from cattle, Zululand, W. O. Neitz (2).

B. CNIDOSPORIDIA.

(d) **Myxosporidia.**

[No record].

(e) **Microsporidia.**

Nosema steinhausi sp. n. (p. 190) from Czech mites, J. Weiser (2); *N. tatica* sp. n. (p. 193) from *Ephe-merella ignita*, J. Weiser (3); *N. tortricis* sp. n. (p. 207) from Moravian caterpillars, J. Weiser (4).

Octosporea viridanae sp. n. (p. 204) from Moravian caterpillars, J. Weiser (4).

Perezia sp. from beetle, A. J. Gibbs.

Plistophona aporiae sp. n. (p. 184) from Czech butterfly, J. Veber; *P. calopterygis* sp. n. (p. 198) from *Calopteryx* larvae, J. Weiser (3).

(f) **Actinomyxidida.**

Triactinomyxon naidanum sp. n. (p. 209), from Indian oligochaete, K. V. Naidu.

(g) **Sarcosporidia.**

[No record].

(h) **Haplosporidia.**

[No record].

SPOROZOA INCERTAE SEDIS.

Nomenclature of *Benoitia benoiti*, W. L. Jellison.

Taxonomy of *Toxoplasma*, P. H. van Thiel (3).

Toxoplasma from crow (U.S.A.), P. Finlay & R. D. Manwell; *Toxoplasma* sp. n. from *Bufo marinus*, J. V. Scorza, C. Dagert B. & L. I. Aracha.

4.—CILIOPHORA

A. CILIATA

Systematics of ciliated Protozoa, J. O. Corliss (2, 3).

(a) **Holotrichida.**

Bursostoma gen. n. *bursaria* sp. n. (p. 366), Hungary, B. Vörösváry.

Bursostomidae fam. n. (p. 366), B. Vörösváry.

Chilodonella pigra sp. n. (p. 517) soil, Roumania, J. Lepsi.

Colpoda discoidea sp. n. (p. 342) moss, Hungary, J. Gellért.

Dileptus beersi sp. n. (p. 68), fresh to brackish, flood plain pools, U.S.A., E. E. Jones.

Enchelys agricola sp. n. (p. 270), soil (Hungary), J. Horváth.

Jirovecella gen. n. *hegemonis* sp. n. (p. 230) from Czech oligochaete, J. Lom (2).

Legendrea pes pelicani; status thereof, M. Tuffrau.

Loxophyllum piriformis sp. n. (p. 357), Hungary, B. Vörösváry.

Nassula musicola var. n. *fluviatilis* (p. 362), Hungary, B. Vörösváry; *N. tumida* var. n. *obscura* (p. 517) soil, Roumania, I. Lepsi.

Prorodon hivernalis sp. n. (p. 353), Hungary, B. Vörösváry.

Pseudocristigera gen. n. *hymenofera* sp. n. (p. 271), soil (Hungary), J. Horváth.

Radiophryoides gen. n. *komárecki* sp. n. (p. 281) from Czechoslovakian oligochaete, J. Lom (1).

Rhopalophrya elegans sp. n. (p. 269) soil (Hungary), J. Horváth.

Spathidium; systematics thereof, F. Wenzel.

Spathidium alpinum sp. n. (p. 341) moss, Hungary, J. Gellért; *S. geobium* sp. n. (p. 517), soil, Roumania, I. Lepsi.

Tetrahymena setifera sp. n. (p. 113), G. G. Holz & J. O. Corliss.

Urotricha mamilla sp. n. (p. 516) soil, Roumania, I. Lepsi.

(b) Heterotrichida.

Spirostomum sp. from India, B. R. Seshachar & P. B. Padmavathi.

Stentor Oken 1815; validation thereof, Anon. (4).

(c) Oligotrichida.

Daturella balechei sp. n. (p. 365), Dakar coast, Africa, E. de Sousa e Silva (2).

Halterioforma gen. n. *caudata* sp. n. (p. 274) soil (Hungary), J. Horváth.

Nyctotherus diplopodae sp. n. (p. 2) in *Thyropygus nigrolabiatus*; *N. thyropygus* sp. n. (p. 4) in *Thyropygus* sp.; *N. gongylorrhhus* sp. n. (p. 7) in *Gongylorrhhus* sp.; millipedes, Bombay, K. R. Karandikar & S. G. Rodgi (1).

(d) Entodiniomorpha.

[No record].

(e) Hypotrichida.

Atractos gen. n. *contortus* sp. n. (p. 372) Hungary, B. Vörösváry.

Gonostomum spirotrichoides sp. n. (p. 347); *G. bryonicolum*, *ciliophorum* spp. n. (p. 348); moss, Hungary, J. Gellért.

Histrio hyalinus sp. n. (p. 377), Hungary, B. Vörösváry.

Holosticha longiseta sp. n. (p. 519) soil, Roumania, I. Lepsi; *H. muscicola* sp. n. (p. 345) moss, Hungary, J. Gellért.

Opistotricha terrestris sp. n. (p. 275) soil (Hungary), J. Horváth.

Paraholosticha bujoreani sp. n. (p. 520) soil, Roumania, J. Lepsi.

Paraholosticha vitrea sp. n. (p. 370), Hungary, B. Vörösváry.

Steinia dubia sp. n. (p. 349) moss, Hungary, J. Gellért.

Uroleptus humicola sp. n. (p. 345) moss, Hungary, J. Gellért.

(f) Peritrichida.

Pyxidium asymmetricum sp. n. (p. 157), Central Europe, F. Biczók.

Trichodina dohrni sp. n. (p. 363) from Italian fish, H. H. Reichenbach-Klinke.

Trichodinella sphaeronuclea sp. n. (p. 277) from Czechoslovakian molluscs, J. Lom (1).

B. SUCTORIA

Acineta rotunda sp. n. (p. 173); *A. ovoidea* sp. n. (p. 175); postero-phagealan region of *Desmodora*, Antarctic, C. Allgén.

Loricaphrya gen. n. (p. 521), division of *Thecacineti*, D. Matthes.

Praethecacineta gen. n. (p. 521) division of *Thecacineti*, D. Matthes.

PROTISTA INCERTAE SEDIS

†New Palaeozoic Chitinozoans from North America, C. Collinson & H. Schwalb.

†New Devonian microplankton from Canada, J. Deunff.

New fossil microplankton from the Australian Mesozoic and Tertiary, G. Deflandre & I. C. Cookson (2).

†New Cretaceous microplankton from France, L. Valensi.

†*Ampullachitina* gen. n. *laguncula* sp. n. (p. 28) (genotype) Palaeozoic, North America, C. Collinson & H. Schwalb.

†*Angochitina bifurcata* sp. n. (p. 21) Lower Devonian; *A. flasca* sp. n. (p. 22); *A. pusilla* sp. n. (p. 23); both Middle Devonian; North America, C. Collinson & H. Schwalb.

†*Cannosphaeropsis fenestrata* sp. n. (p. 283), Upper Cretaceous, Australia, G. Deflandre & I. C. Cookson (2).

†*Conochitina dactylus* sp. n. (p. 24) Middle Silurian, North America, C. Collinson & H. Schwalb.

†*Cyclonephelium* gen. n. *compactum* sp. n. (p. 285) (genotype); *C. distinctum* sp. n. (p. 285); Cretaceous, Australia, G. Deflandre & I. C. Cookson (2).

†*Cymatiosphaera cornifera*, *multi-septa* spp. n. (p. 147) Devonian, Canada, J. Deunff; †*C. imitata* sp. n. (p. 288), Upper Cretaceous; *C. punctifera* sp. n. (p. 289), Lower Eocene; Australia, G. Deflandre & I. C. Cookson (2).

†*Desmochitina poculum* sp. n. (p. 31) Palaeozoic, North America, C. Collinson & H. Schwalb.

†*Epicephalopyxis indentata* sp. n. (p. 292), Lower Tertiary; *E. spectabilis* sp. n. (p. 293), Lower Cretaceous; Australia, G. Deflandre & I. C. Cookson (2).

†*Hystriochikibotum trabeculiferum* sp. n. (p. 269) Miocene, Australia, G. Deflandre & I. C. Cookson (2).

†*Hystriochikolpoma rigaudae* sp. n. (p. 279), Eocene, Australia, G. Deflandre & I. C. Cookson (2).

†*Hystriochosphaera bulloides*, *hyperacantha* spp. n. (p. 264), Miocene; *H. crassipellis* sp. n. (p. 265), Eocene; Australia, G. Deflandre & I. C. Cookson (2).

†*Hystriochosphaeridium pseudhystriochodinium* subsp. n. *magnum* (p. 35); *H. hirtum* subsp. n. *amplum* (p. 38); Cretaceous, Germany, W. Wetzel (1); †*H. pulcherrimum* sp. n. (p. 270) Lower Cretaceous; *H. choanophorum* sp. n. (p. 271), Miocene; *H. isocalamus* sp. n. (p. 272), Lower Cretaceous; *H. centrocarpum*

sp. n. (p. 272), Miocene; *H. machaerophorum* sp. n. (p. 274) Miocene; *H. striatoconus* sp. n. (p. 275), Upper Cretaceous; *H. floripes* sp. n. (p. 276) Lower Tertiary; †*H. heteracanthum* sp. n. (p. 276) Upper Cretaceous; *H. placacanthum* sp. n. (p. 276), Miocene; *H. colligerum* sp. n. (p. 278), Eocene; Australia, G. Deflandre & I. C. Cookson (2); †*H. rhopalophorum* sp. n. (p. 36); *H. tridactylites* sp. n. (p. 37); *H. huguonioti* sp. n. (p. 38); Cretaceous, France, L. Valensi; †*H. spiciferum* sp. n. (p. 146); *H. ramusculosum* var. n. *macrocladum* (p. 146); Devonian, Canada, J. Deunff.

†*Illichitina* gen. n. *crotalum* sp. n. (p. 29) (genotype) Palaeozoic, North America, C. Collinson & H. Schwalb.

†*Lagenochitina brevicervicata* sp. n. (p. 18); *L. elongata* sp. n. (p. 19); *L. sphaerica* sp. n. (p. 20); all Middle Devonian; *L. sacculus* sp. n. (p. 19), Lower Devonian; North America, C. Collinson & H. Schwalb.

†*Leiofusua bacillum*, *minuta* spp. n. (p. 148), Devonian, Canada, J. Deunff.

†*Leiosphaera scrobiculata* sp. n. (p. 291), Upper Cretaceous, Australia, G. Deflandre & I. C. Cookson (2).

†*Lombardia* Bronnimann; validity thereof, R. Verniory (1).

†*Membranilarnax angustivelum*, *clathrodermum* spp. n. (p. 290), Eocene, Australia, G. Deflandre & I. C. Cookson (2).

†*Michrystidium alloiteaui* sp. n. (p. 148), Devonian, Canada, J. Deunff; †*M. fucosum* sp. n. (p. 40), Cretaceous, France, L. Valensi; †*M. pachydermum* sp. n. (p. 282) Lower Cretaceous, Australia, G. Deflandre & I. C. Cookson (2).

†*Nematosphaeropsis* gen. n. *balcombiana* sp. n. (p. 268) (genotype) Miocene, Australia, G. Deflandre & I. C. Cookson (2).

†*Odontochitina cribropoda* sp. n. (p. 292), Upper Cretaceous, Australia, G. Deflandre & I. C. Cookson (2).

†*Polyedryxium decorum* sp. n. (p. 146); *P. simplex*, *evolutum*, *pruvosti*, *piveteaui*, *venustum*, *cuboides*, *centrigerum* spp. n. (p. 147); Devonian, Canada, J. Deunff.

†*Pterocystidiopsis velata* sp. n. (p. 291), Lower Tertiary, Australia, G. Deflandre & I. C. Cookson (2).

†*Pterospermopsis australiensis* sp. n. (p. 286), Lower Cretaceous; *P. ginginensis* sp. n. (p. 287) Upper Cretaceous; *P. microptera* sp. n. (p. 288), Lower Tertiary, Australia, G. Deflandre & I. C. Cookson (2); †*P.*

onondagaensis sp. n. (p. 148), Devonian, Canada, J. Deunff.

†*Schematophora* gen. n. (p. 262) *speciosa* sp. n. (p. 262) (genotype) Eocene, Australia, G. Deflandre & I. C. Cookson (2).

†*Veryhachium farcillatum*, *heterogonum*, *ambiguum*, *remotum*, *crucistellatum*, *exasperatum* spp. n. (p. 146); Devonian, Canada, J. Deunff.

